NOTICE

All drawings located at the end of the document.

RF/ER-95-0114.UN





SOURCE REMOVAL
ACTION
PRELIMINARY
INVESTIGATION
FOR RYAN'S PIT
(TRENCH T-2)
REMEDIATION

DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE



August 28, 1995

Source Removal Action Preliminary Investigation For Ryan's Pit (Trench T-2) Remediation

> Operable Unit 2 Individual Hazardous Substance Site 109

Rocky Mountain Remediation Services

August 28, 1995

Table of Contents

- 1.0 Introduction
 - 1.1 Purpose
 - 1.2 Background
 - 1.3 Scope of Work
- 2.0 Field Investigation
 - 2.1 Objective 1, Soil Sampling
 - 2.2 Objective 2, Soil Gas Sampling
- 3.0 Physical Characteristics of Trench T-2
- 4.0 Analytical Results
 - 4.1 Analytical Methodology
 - 4.2 Soil and Liquid Analytical Results
 - 4.3 Soil Gas Survey Results

5.0 Conclusions

Tables and Figures

Tables

- 1.1 Programmatic Preliminary Risk Based Remediation Goals
- 2.1 Field Observations-Soil Boreholes
- 4.1 Summary of Analytical Sampling
- 4.2.1 Volatile Organic Compound Screening Method
- 4.2.2 Volatile Organic Analysis-Contract Laboratory Program
- 4.3.1 Field Observations-Soil Gas Survey Photoionization Detector Results
- 4.3.2 Soil Gas Survey Analytical Results

Figures

- A Soil Gas and Soil Borehole Locations
- B Volatile Organic Compound Screening Results
- C Volatile Organic Analysis-Contract Laboratory Program Results

Appendix A

Well Site Field Logs

1.0 INTRODUCTION

1.1 Purpose

This document summarizes the investigation activities conducted to support the source removal action to be implemented at Ryan's Pit (Trench T-2 or Individual Hazardous Substance Site [IHSS] 109). The sampling and analysis activities described herein were to achieve the following two objectives.

- Objective 1: confirm the presence of high hydrocarbon concentrations meeting or exceeding Programmatic Preliminary Risk-Based Remediation Goals (PPRGs) for the Subsurface Soil Construction Worker Scenario, presented in Table 1.1.
- Objective 2: verify the trench boundaries of IHSS 109 needed for the purpose of excavating the hydrocarbon impacted soil.

This investigation was conducted under the Sampling and Analysis Plan for Ryan's Pit (Trench T-2) Remediation, Preliminary Sampling Activities, Operable Unit 2, Individual Hazardous Substance Site 109 (July 31, 1995) and the Addendum #1 To The Trenches and Mound Site Characterization Health and Safety Plan, Operable Unit No. 2, (July and August, 1995). The source removal action will be conducted under the approved Final Proposed Action Memorandum for the Remediation of Trench T-2: Operable Unit 2. Final approval of this document is expected to be received by September 1, 1995.

1.2 Background

Operable Unit 2, Trench T-2, Individual Hazardous Substance Site (IHSS) 109 was used from approximately 1966 through 1971 to dispose of nonradioactive liquid chemicals. The organic chemicals, disposed in small quantities, included tetrachloroethylene (PCE), trichloroethylene (TCE), and possibly diesel fuel. Other materials that were disposed in the trench included paint thinner and small quantities of construction related materials.

Sampling locations were selected using the existing site characterization data from the Trench and Mound Site Characterization conducted in May 1995, the Soil Vapor Survey of IHSS 109 conducted in Winter 1993, and the Remedial Investigation completed in 1992 to achieve Objective 1. Sampling locations were also used to evaluate the trench boundaries to achieve Objective 2. The estimated boundaries of Trench T-2 were located by survey in the field on the basis of the Electromagnetic (EM) data generated during the Remedial Investigation. Soil boring and soil gas locations were referenced off of the four staked corner posts for this investigation. Staked locations for borings 13295 and 13395 were also used as reference points.

1.3 Scope of Work

The scope of work for this investigation was described in detail in Sampling and Analysis Plan (SAP) and is summarized below for the two objectives.

Objective 1

- . Collect soil samples from four to ten small diameter boreholes to a depth of 10 feet.
- . Select soil grab samples of discrete intervals in the field based on the results of existing characterization data and on the discretion of the field geologist.
- Analyze soil samples by Target Compound List-Volatile Organic Screening methodology at the on-site 881 Building Laboratories on a twenty four hour expedited turnaround time period. Collect duplicate and equipment blank (rinse) samples at a ratio of one per ten real samples. A radionuclide screen will be collected for each sample.
- . If additional boreholes are required, based on the decision of Rocky Mountain Remediation Services (RMRS) and Kaiser-Hill, the field geologist will select additional boring locations. If specific organic compounds above PPRGs are encountered sampling will be terminated.
- Collect a sample of nonaqueous phase liquid product (NAPL) if encountered during the soil gas survey or the borehole drilling for analysis.

Objective 2

- Soil gas samples will be collected from locations within and outside the estimated trench boundaries based on previous site characterization results. Soil gas sampling will be completed using a micro-sampling probe driving system to collect samples at approximately three, six, and ten feet or immediately above ground water (whichever is encountered first).
- A preliminary screening analysis of the soil gas sample will be performed using a Photoionization Detector (PID) If levels exceed approximately 1000 ppm, a follow up quantitative analysis will be conducted using a Gas Chromatograph (GC) instrument that will be calibrated for the organic compounds of concern (primarily PCE, TCE, and 1,1,1-Trichloroethane [TCA]).
- Soil gas sampling locations will be aligned two feet in from the existing staked trench boundary and sampling shall be stepped out five to ten feet from the last sample collected if field results indicate additional sampling is required.
- . Thirty percent of the soil gas samples, along with the required QA/QC soil gas samples (one in ten), will be sent to an off-site laboratory for analysis in order to confirm the field results.
- . Prepare a written report summarizing all findings and analytical results for submittal to Kaiser-Hill.

2.0 FIELD INVESTIGATION

Field investigation activities conducted to meet the two objectives are described below. All field activities were conducted in accordance with applicable Operating Procedures as described in the SAP.

2.1 Objective 1, Soil Sampling

The original scope of Objective 1, to confirm the presence of high hydrocarbon concentrations exceeding the PPRGs, was modified in the field slightly from the locations described in the SAP as shown in Figure A for the initial ten borehole locations. Field soil boring activities were completed in the following sequence for a total of 13 borings as shown in Figure A.

Initially four locations were drilled (70195 through 70495) as shown in Figure A, along the southern border of Trench T-2. The soil gas survey was then performed (Section 2.2). Upon completion of the soil gas survey, a decision was made to twin the existing borehole 13395 and a previous soil gas sample location 109-04 where existing site characterization data indicated hydrocarbon contamination (locations 70595, 70695, and 70795 as shown on Figure A). Boring 70695 was completed as a twin of 70595 due to the lack of sample recovery from the soil zone underlying the water/liquid observed in boring 70595. Upon completion of these three boreholes a decision was made to use borehole soil samples to confirm the lateral extent of Trench T-2 with borehole locations 70895, 70995, 71095, 71195, 71295, and 71395 as shown in Figure A.

In summary thirteen small diameter boreholes (1 to 1.5 inch diameter) were drilled using a micro-sampling hydraulic drive system (Geoprobe) as described in the SAP. The core was examined visually for evidence of hydrocarbon contamination and logged in accordance with GT.01 "Logging of Alluvial and Bedrock Material". Small diameter boreholes were abandoned using granular bentonite and deionized water. Twenty-six grab soil samples of discrete intervals which indicated possible hydrocarbon contamination (observed soil staining/discoloration, PID readings) were collected for analysis. Three duplicate soil samples and three equipment blank (rinse) samples were also collected.

Three water/liquid grab samples were collected. The first two samples from locations 70395 (depth of 4.5-5.0) and 70595 (depth of 2.9-3.5 feet) were collected using a peristaltic pump per GW.06, "Groundwater Sampling". The third water/liquid sample was collected directly from the 1.5 inch diameter sample core tube from location 70695 during the collection of soil samples BH00076GA and BH00077GA, and was encountered on top of the sediments.

Photoionization detector measurements were collected from different intervals along the core and occasionally in the ambient temperature headspace (ATH) methodology. Table 2.1 presents the field readings with the corresponding sample number and depth interval. This sampling was used to identify elevated levels of VOC contamination and shall not be analyzed quantitatively. PID results are included within this summary to indicate areas where high VOC contamination areas may be encountered during excavation activities.

2.2 Objective 2, Soil Gas Sampling

The original scope of Objective 2, to confirm the lateral extent of hydrocarbon contamination, was modified in the field as described in the SAP for the initial twelve soil gas locations. Field soil gas sampling activities were completed in the following sequence for a total of eight soil gas locations as shown in Figure A.

The second objective was partially achieved by collecting nineteen soil gas samples from eight soil gas locations placed in a grid two feet inside the boundary of Trench T-2 (Figure A). Based on the results of the initial Photoionization Detector (PID) and from confirmatory laboratory GC/MS analyses, additional soil gas survey locations were not selected.

Eight soil gas locations were drilled (SG000195-SG00495 and SG000995-SG001295) using a micro-sampling probe hydraulic drive system (Dynamic Sampling methodology) the SAP. Soil gas samples were collected at 3 feet, 6 feet, and 9 feet from the first location SG001095 with poor to no recovery results. A field decision was made to limit the soil gas sampling to depth of 3 and 6 feet or immediately above ground water (whichever is encountered first). A PID measurement was performed at each interval and only two soil gas samples were collected for analysis based on the PID readings. The two soil gas samples were collected from locations SG000495 and SG000295 at a depth 3 feet below ground surface (BGS). Soil gas sample recovery was poor due to the tight clay encountered, therefore locations SG000595-SG000895 along the north side of Trench T-2 were dropped from the investigation. A decision was then made to replace the soil gas survey with additional small diameter boreholes located within and outside of the Trench T-2 boundaries to verify the area requiring source removal by excavation as described in Section 2.1.

3.0 PHYSICAL CHARACTERISTICS OF TRENCH T-2

Soil cores collected as part of the field investigation were logged for soil properties and are included as Appendix A. Borings 70195 through 70695 appear to be located within Trench T-2. Borings 70795 through 71395 appear to be located around the perimeter of Trench T-2. The following presents a summary of the subsurface hydrogeology observed during the investigation.

Six borings, 70195 through 70695 as shown in Figure B, appear to be located within Trench T-2 with the subsurface characterized as follows. From ground surface to a depth of two to three feet, the soils encountered are primarily a sandy clay with some gravel, dry to damp, slightly plastic to nonplastic, with roots. At a depth from two to five feet, the borings encountered a clay which is soft to very soft, moist to wet, and very plastic. Cavities or voids were encountered in borings 70195 (at 2.5 and 4.0 feet BGS), 70595 (2.9-3.5 feet BGS), 70695 (3.0-4.0 feet BGS), and SG000395 (at 3 feet BGS). A thin hard possibly polyacrylic plastic was observed in boring 70395 from 4.3 to 4.7 feet BGS and may have been encountered in boring 70495 at a depth of 5.0 feet and in soil gas locations SG000295 and SG000195 at a depth of 4.5 feet. Groundwater appears to be perched on top of the underlying claystone bedrock and appears as a thin saturated zone from approximately 3 to 5 feet BGS. Claystone bedrock was encountered in the trench at a depth of approximately 5 to 6 feet BGS (with the exception of 70195 where claystone was observed at 8 feet BGS). The claystone is described as soft, moist to damp, strongly weathered to weathered, blocky, with vertical iron oxide and gray stained fractures.

Seven borings, 70795 through 71395 as shown in Figure B, appear to be located around the perimeter of Trench T-2 with the subsurface characterized as follows. From ground surface to a depth of approximately four feet, the soils encountered are primarily a sandy clay with some gravel and clay interbeds, dry to damp, slightly plastic to nonplastic, with roots. A thin sand zone was observed in 70895 from 2.5 to 3 feet BGS. Groundwater appears to be perched on top of the underlying claystone bedrock and appears as a thin saturated zone from approximately three to five feet BGS. No groundwater was observed in borings 70995, 71095, 71195, and 71395. Therefore, the eastern area outside of Trench T-2 does not appear to have perched groundwater. Claystone bedrock was encountered in the trench at a depth of approximately four to six feet BGS. The claystone is described as soft, moist to damp, strongly weathered to weathered, blocky, with vertical iron oxide and gray stained fractures.

4.0 ANALYTICAL RESULTS

4.1 Analytical Methodology

In order to confirm the presence of hydrocarbons above the PPRGs within the trench boundaries and to verify the lateral extent requiring excavation, 13 boreholes and eight soil gas locations were drilled. The number and types of samples collected are summarized below in Table 4.1.

Soil samples were initially analyzed by a volatile organic screening method. The volatile organic compound (VOC) Screening Method used a Purge and Trap Gas Chromatography/Mass Spectrometry. Approximately one gram of sample was purged and analyzed. Because a screening method was used, the results are estimated quantitations and could be off by up to five orders of magnitude. According to the laboratory, it can be assumed that detection limits for this method are in the low (5-15) parts per billion range. After review of the initial sampling results and consultation with the laboratory, RMRS personnel determined that volatile organic compound analyses using the contract laboratory procedure (CLP) would a more method to achieve the objectives of this investigation. The CLP, which is equivalent to SW-846 Method 8240, was adopted for the remaining sample analyses. Results of both sampling methods are reported in Section 4.2, Soil and Liquid Analytical Results.

The total number of soil gas samples collected was reduced to 21 based on the subsurface conditions encountered. Out of the seventeen sampling intervals, only twelve intervals yielded soil gas volumes in excess of 200 ml. Purge times to evacuate the sample probe and tubing ranged from 30 seconds up to 35 minutes. The soil gas survey was abandoned after the first eight sampling locations because the initial results of the survey indicated that the data would not provide adequate information to achieve objective 2. As part of the soil gas methodology, the photoionization detector was calibrated to 100 parts per million (ppm) isobutylene on a daily basis.

Two soil gas samples were analyzed by a gas chromatograph. Approximately 250 ml of soil gas were placed into a 1 liter Tedlar bag using both high and low volume sampling techniques to purge the line and to collect the samples. Samples were then shipped to Golder Federal Services in Seattle Washington for analysis. Soil gas samples were analyzed within the scope of EPA Method 8010 for chlorinated hydrocarbons and 8020 for volatile organic compounds.

4.2 Soil and Liquid Analytical Results

Figure B and Table 4.2.1 presents the results of the volatile organic screening methodology. Figure C and Table 4.2.2 presents the results of the volatile organic analysis using the CLP methodology. The most common contaminants detected in the soil include 1,1-dichloroethane (1,1-DCA), 1,1,1- trichloroethane (TCA), trichloroethene (TCE), and tetrachloroethene (PCE). The highest volatile organic concentrations were observed in boreholes 70595 and 70695, located adjacent to borehole 13395. The highest detected concentrations observed in the subsurface soil samples for PCE range between 25,000 mg/Kg at 5.0-5.5 feet to 6,800 mg/kg at 3.5-3.6 feet in 70595, and for TCA between 11,000 mg/kg at 5.0-5.5 feet to 915 mg/kg at 3.5-3.6 feet in 70595.

Liquid samples were collected from boreholes 70595 and 70695 to establish if NAPL was present within Trench T-2. The liquid sample BH00074GA from borehole 70595 was nearly 40 percent NAPL (Table 4.2.2).

4.3 Soil Gas Survey Results

The photoionization detector results from the eight soil gas sample locations are presented in Table 4.3.1. Because of the tightly bound clays and areas with perched groundwater observed in the Trench T-2 area, recovery of soil gas samples was very difficult. The results of the two soil-gas gas chromatograph analyses are presented in Table 4.3.2.

5.0 CONCLUSIONS

Hydrocarbon concentrations meeting or exceeding the PPRGs appear to be limited to a volume of approximately 3 cubic yards. This volume is estimated based on an approximate 3 foot thickness (from 3 to 6 feet BGS) by 25 square feet. The areal extent of 25 square feet is based on assuming an impacted area extending 2.5 feet around boreholes 13395, 70595, and 70695. High concentrations, greater than 100 mg/Kg but less than 1,000 mg/Kg, are observed in downgradient borehole locations 70795 (5.5-6.0 feet BGS) and 70995 (7.1-7.75 feet BGS) south and southeast of borehole locations 13395, 70595, and 70695 and outside of the trench boundary. Location 70995 has PCE with a concentration of 690 mg/Kg. It appears that contamination has moved downgradient to the south and southeast, vertically and horizontally, along the alluvial bedrock contact and within the claystone bedrock. Contaminants are still detected with lower concentrations, less than 100 but with more than 1 mg/Kg, to the southwest (locations 70195 and 70895) and to the east and southeast (locations 70395, 70495, 70295, 70995, and 71095). Hydrocarbon concentrations less than 1 mg/Kg were observed at locations 71195, 71295, and 71395 which indicate that these locations are outside of the trench and the area of the contaminant plume.

Table 1.1 presents the PPRGs for Trench T-2 based on the following document; Programmatic Risk-Based Preliminary Remediation Goals, U.S. Department of Energy, Rocky Flats Environmental Technology Site, Golden, Colorado, Final, Revision 2, dated February 1995. A

PPRG has not been calculated for TCA at this time. Based on the results of this investigation it is recommended that soils containing hydrocarbon concentration that meet or exceed the PPRGs, specifically PCE, be excavated and treated. As part of this action to further reduce the source of groundwater contamination, it is advisable that the excavation also remove soils containing hydrocarbon concentrations greater than 100 mg/kg PCE.

Tables

&

Figures

Table 1.1 Programmatic Preliminary Risk-Based Remediation Goals

Constituent of Concern	Construction Worker,		
	Subsurface Soil 1		
	(mg/kg)		
1,1,1-TCA	not calculated		
TCE	5440		
PCE	2220		
Toluene	125,000		
Ethylbenzene	151,000		
1,2-DCE	16,000		
1,1-DCE	16,000		
1,1-DCA	57,300		
Xylene	1,000,000		

^{1.} From Table 26 for Construction Worker-Subsurface Soil, Programmatic Risk-Based Preliminary Remediation Goals, U.S. Department of Energy, Rocky Flats Environmental Technology Site, Golden, Colorado, Final, Revision 2, dated February 1995.

Table 2.1 Field Observations-Soil Boreholes

(Market) 101	Sample Number	Depth	Observed Pla
70195	BH00051GA	4.0-4.5	24
70295	BH00052GA BH00053GA	2.0-2.25 4.0-4.7	68 221
	BH00054GA	5.0-5.6	519
	BH00055GA	6.0-6.6	95.2
	BH00056GA	7.56-8.2	129
	BH00057GA	7.56-8.2	129
	BH00058GA	7.0-8.4	129
	BH00059GA	9.15-9.45	115
70395	BH00060GA	4.2-4.4	68
	BH00061GA	4.5-5.0	30
	BH00062GA	5.0-5.7	786
	BH00063GA	6.5 - 6.8	292
	BH00064GA	7.0-7.4	132
	BH00065GA	8.5-9.0	322
	BH00066GA	9.55-9.9	30
70495	BH00067GA	4.0-4.35	869
70595	BH00074GA	2.9-3.5	902
	BH00075GA	3.5-3.6	328
70695	BH00076GA	5.0-5.5	509
	BH00077GA	5.5-6.0	509
	BH00078GA	5.0-6.0	509
70795	BH00079GA	5.5-6.0	507
70895	BH00080GA	7.55-7.9	17
70995	BH00081GA	7.1-7.75	3
71095	BH00083GA	7.3-7.6	0
71195	BH00084GA	7.1-7.75	21
71295	BH00085GA	6.0-6.5	0
71395	BH00087GA	7.2-7.7	1 4

Table 4.1 Summary of Analytical Sampling

Samples Type	No. of Samples
VOC Screen, Real	17
Duplicate	2
Equipment Rinsate	2
VOC-CLP, Real	18
Duplicate	
Equipment Rinsate	1
Soil Gas, total	21
GC analysis	2
Trip and Method	2
Blank	
PID Measurements	17

Table 4.2.1
Volatile Organic Compound Screening Method

Sample #	ocation Depth	Analyte.	Result Unit Samp Measure Matri	
BH00051GA	70195 4.0-4.6	Methylene Chloride	5.00E+01 ug/kg soil	
Briodostan	70100 4.0-4.0	Acetone	4.00E+02 ug/kg soil	
		1,1 Dichloroethane	2.40E+02 ug/kg soil	
		1,1,1-Trichloroethane	1.05E+03 ug/kg soil	
		Trichloroethene	6.70E+02 ug/kg soil	
		Tetrachloroethene	4.60E+02 ug/kg soil	
		Xylenes	8.50E+01 ug/kg soil	
BH00052GA	70295 2.0-2.25	Acetone	1.60E+04 ug/kg soil	
		1,1-Dichloroethane	7.00E+02 ug/kg soil	
		1,1,1-Trichloroethane	1.30E+03 ug/kg soil	
		Trichloroethene	2.00E+02 ug/kg soil	
		4-Methyl-2-Pentanone	3.00E+03 ug/kg soil	
		Tetrachloroethene	3.15E+02 ug/kg soil	
		Toluene	1.60E+03 ug/kg soil	
		Ethylbenzene	2.40E+02 ug/kg soil	
		Xylenes	1.30E+03 ug/kg soil	
BH00053GA	70295 4.0-4.7	Acetone	1.50E+04 ug/kg soil	
		1,1-Dichloroethane	4.00E+02 ug/kg soil	
		1,1,1-Trichloroethane	1.80E+03 ug/kg soil	
		Trichloroethene	9.00E+02 ug/kg soil	
		4-Methyl-2-Pentanone	1.70E+03 ug/kg soil	
		Toluene	9.00E+02 ug/kg soil	
		Ethylbenzene	2.20E+02 ug/kg soil	
		Xylenes	9.00E+02 ug/kg soil	
BH00054GA	70295 5.0-5.6	Methylene Chloride	7.40E+02 ug/kg soil	
		Acetone	2.70E+04 ug/kg soil	
		1,1-Dichloroethane	2.10E+03 ug/kg soil	
		1,1-Dichloroethene	5.00E+02 ug/kg soil	
		1,1,1-Trichloroethane	6.00E+03 ug/kg soil	
		1,2-Dichloropropane	3.00E+02 ug/kg soil	
		Trichloroethene	3.00E+03 ug/kg soil	
		4-Methyl-2-Pentanone	4.00E+03 ug/kg soil	
		Tetrachloroethene	9.00E+02 ug/kg soil	
		Toluene	5.00E+03 ug/kg soil	
		Ethylbenzene	2.30E+03 ug/kg soil	
		Xylenes	8.00E+03 ug/kg soil	
BH00055GA	70295 6.0-6.6	Methylene Chloride	4.30E+02 ug/kg soil	
		Acetone	3.90E+03 ug/kg soil	
		1,1-Dichloroethane	1.40E+02 ug/kg soil	
		1,1,1-Trichloroethane	3.20E+02 ug/kg soil	
		Trichloroethene	1.40E+02 ug/kg soil	
		4-Methyl-2-Pentanone	2.70E+03 ug/kg soil	
		Toluene	1.90E+02 ug/kg soil	
		Xylenes	1.40E+02 ug/kg soil	
BH00056GA	70295 7.56-8.2	Methylene Chloride	1.20E+03 ug/kg soil	
		Acetone	1.40E+04 ug/kg soil	
		1,1-Dichloroethene	2.40E+02 ug/kg soil	
		1,1-Dichloroethane	3.80E+02 ug/kg soil	
		1,1,1-Trichloroethane	2.30E+03 ug/kg soil	
		Trichloroethene	1.50E+03 ug/kg soil	
		4-Methyl-2-Pentanone	3.30E+03 ug/kg soil	
		Tetrachloroethene	1.60E+02 ug/kg soil	

Table 4.2.1 Volatile Organic Compound Screening Method

13:22:33			1:1:1:2:2:1		
Sample #	Location Depth	Analyte.	Result	: Unit: : Measure:	Sample: Matrix
SU000500A			[-7:1:1:1:1:1:1:1:1:1:1:1:1:1:1:1:1:1:1:1		
BH00056GA	70295 7.56-8.2	Toluene Ethylbenzene	1.90E+03 t 7.60E+02 t		soil soil
		Xylenes	2.60E+02 t		soil
		Ayleries	2.002.403	ug/kg	2011
BH00057GA	70295 7.56-8.2	Methylene Chloride	2.00E+03 t	ug/kg	soil
(Duplicate of E	3H00056GA)	Acetone	2.70E+03 t		soil
		1,1-Dichloroethene	6.50E+02 t		soil .
		1,1-Dichloroethane	3.70E+02 t		soil
		1,1,1-Trichloroethane	6.80E+02 t		soil
		Trichloroethene	7.00E+02 t		soil
		4-Methyl-2-Pentanone	2.30E+03 t		soil
		Tetrachloroethene	4.70E+01 t		soil
		Toluene	8.30E+02 t		soil
		Ethylbenzene	8.00E+01 t		soil
		Xylenes	4.00E+02 L	ug/kg	soil
BH00059GA	70295	Methylene Chloride	1.00E+03 u	ug/kg	soil
		Acetone	1.70E+03 t	ug/kg	soil
		1,1-Dichloroethene	5.00E+01 u	ug/kg	soil
		1,1-Dichloroethane	6.50E+00 เ	•	soil
		1,1,1-Trichloroethane	1.00E+02 U		soil
		Trichloroethene	5.00E+01 L		soil
		4-Methyl-2-Pentanone	1.20E+03 u		soil
		Toluene	8.50E+01 u		soil
		Xylenes	3.50E+01 u	ıg/kg	soil
BH00060GA	70395 4.2-4.4	Acetone	2.20E+02 u	ua/ka	soil
		1,1-Dichloroethane	4.00E+02 t		soil
		1,1,1-Trichloroethane	3.70E+03 ti		soil
		Tetrachloroethene	1.30E+03 t	-	soil
		Toluene	5.00E+02 u	ıg/kg	soil
		Ethylbenzene	7.00E+01 u	ıg/kg	soil
		Xylenes	7.00E+02 u	ıg/kg	soil
BH00061GA	70395 4.5-5.0	Methylene Chloride	4.20E+02 u	ia/ka :	water
D1100001 G/1	70000 4.0 0.0	Acetone	1.40E+02 u		water
		1,1-Dichloroethene	5.50E+02 u		water
		1,1-Dichloroethane	4.80E+03 u		water
		1,1,1-Trichloroethane	1.20E+04 u		water
		Trichloroethene	5.80E+02 u		water
		1,1,2-Trichloroethane	1.40E+02 u	ig/kg	water
		Tetrachloroethene	2.10E+03 u	ig/kg '	water
		Toluene	2.60E+03 u	ig/kg '	water
		Ethylbenzene	2.10E+02 u	ig/kg	water
		Xylenes	2.10E+03 u	ig/kg	water
8H00062GA	70395 5.0-5.7	Methylene Chloride	3.00E+02 u	ıg/ka :	soil
0,,0000	, , , , , , , , , , , , , , , , , , , ,	Acetone	4.60E+02 u		soil
		1,1-Dichloroethene	1.25E+02 u		soil
		1,1-Dichloroethane	7.25E+02 u		soil
		1,1,1-Trichloroethane	4.60E+03 u		soil
		Trichloroethene	8.00E+02 u		soil
		1,1,2-Trichloroethane	8.00E+01 u	ig/kg s	soil
		4-Methyl-2-Pentanone	1.35E+03 u	ig/kg s	soil
		Tetrachloroethene	1.00E+03 u		soil
		Toluene	3.10E+03 u	-	soil
		Ethylbenzene	5.50E+02 u	ig/kg :	soil

Table 4.2.1
Volatile Organic Compound Screening Method

[] ·		lateration of the	Facility of the second second	14.14.1.19.19.19	1	1.7.7.2.2.2.2.1
	Location				Unit	Sample
Sample #	Code	Depth	Analyte	:: Result	Measure	Matrix;
[:-::-:-:::]	70005	<u>[</u>	<u> </u>	0.005.00	<u> </u>	
BH00062GA	70395	5.0-5.7	Xylenes	2.90E+03	ug/kg	soil
DLIODOCO A	70005	6569	Mathedana Chlorida	7.005.01	110/kg	201
BH00063GA	70395	6.5-6.8	Methylene Chloride	7.00E+01		soil soil
			Acetone	3.60E+02 5.50E+01		soil
			1,1-Dichloroethene 1,1-Dichloroethane	6.50E+01		soil
			1,1,1-Trichloroethane	1.60E+03		soil
			Trichloroethene	1.40E+03		soil
			Tetrachloroethene	3.40E+02		soil
			4-Methyl-2-Pentanone	2.10E+03		soil
			Toluene	7.00E+02		soil
			Ethylbenzene	1.25E+02		soil
			Xylenes	7.50E+02		soil
			Ayleries	7.302702	ug/kg	3011
BH00064GA	70395	7.0-7.4	Methylene Chloride	4.75E+02	ua/ka	soil
B/1000040/	, 0000	,,	Acetone	6.75E+02		soil
			1,1-Dichloroethene	4.60E+02		soil
			1,1-Dichloroethane	7.00E+02		soil
			1,1,1-Trichloroethane	8.50E+03		soil
			Trichloroethene	8.00E+02		soil
			Tetrachloroethene	4.70E+03	-	soil
			Toluene	4.00E+03		soil
			Ethylbenzene	1.50E+03		soil
			Xylenes	7.70E+03		soil
					J J	
BH00065GA	70395	8.5-9.0	Methylene Chloride	1.90E+03	ug/kg	soil
			Acetone	3.45E+02		soil
			1,1-Dichloroethene	3.70E+02	ug/kg	soil
			1,1-Dichloroethane	1.20E+03	ug/kg	soil
			1,1,1-Trichloroethane	3.00E+03	ug/kg	soil
			Trichloroethene	1.00E+03	ug/kg	soil
			1,1,2-Trichloroethane	5.50E+01	ug/kg	soil
			4-Methyl-2-Pentanone	8.20E+03	ug/kg	soil
			Tetrachioroethene	3.00E+02	ug/kg	soil
			Toluene	3.40E+03	ug/kg	soil
			Ethylbenzene	3.50E+02	ug/kg	soil
			Xylenes	2.00E+03	ug/kg	soil
BH00066GA	70395	9.59-9.9	Methylene Chloride	5.20E+01		soil
			1,1-Dichloroethene	2.70E+01		soil
			1,1-Dichloroethane	4.30E+01		soil
			1,1,1-Trichloroethane	2.60E+02	• •	soil
			Trichloroethene	3.60E+01		soil
			Tetrachloroethene	5.70E+01		soil
			4-Methyl-2-Pentanone	2.50E+01		soil
			Toluene	6.50E+01		soil
			Ethylbenzene	1.10E+01		soil
			Xylenes	1.55E+02	ug/kg	soil
BU000000	70405	6469	Methylene Chloride	3.70E+01	ua/ka	soil
BH00069GA	70495	0.4-0.0	Acetone	2.60E+01		soil
			1,1-Dichloroethene	5.50E+01		soil
			1,1-Dichloroethane	7.00E+01		soil
			1,1,1-Trichloroethane	1.20E+03		soil
			Trichloroethene	7.40E+01		soil
			4-Methyl-2-Pentanone	1.75E+02		soil
			Tetrachloroethene	2.20E+02		soil
					J J	

Table 4.2.1
Volatile Organic Compound Screening Method

Sample #	ocation Code: Depth	Apalyte:	Hesult	Unit: Measure	Sample - - Matrix:
BH00069GA	70495 6.4-6.8	Toluene	2.90E+02	ug/kg	soil
		Ethylbenzene	5.00E+01	ug/kg	soil
		Xylenes	3.25E+02	ug/kg	soil
BH00070GA	70495 7.35-8.0	Methylene Chloride	4.00E+02	ug/kg	soil
		Acetone	3.50E+02	ug/kg	soil
		1,1-Dichloroethane	4.00E+02	ug/kg	soil
		1,1,1-Trichloroethane	2.30E+03	ug/kg	soil
		Trichloroethene	1.40E+02	ug/kg	soil
		Tetrachloroethene	1.00E+02	ug/kg	soil
		4-Methyl-2-Pentanone	2.70E+03	ug/kg	lios
		Toluene	3.00E+02	ug/kg	soil
		Ethylbenzene	2.00E+01	ug/kg	soil
		Xylenes	9.00E+02	ug/kg	soil
BH00071GA	70495 7.35-8.0	Methylene Chloride	4.70E+02	ug/kg	soil
Duplicate BH000	070GA	Acetone	1.70E+02	ug/kg	soil
		1,1-Dichloroethene	1.00E+02	ug/kg	soil
		1,1-Dichloroethane	2.50E+03	ug/kg	soil
		1,2-Dichloroethane	1.30E+03	ug/kg	soil
		1,1,1-Trichloroethane	1.26E+04	ug/kg	soil
		Trichloroethene	3.50E+03	ug/kg	soil
		Tetrachloroethene	3.80E+03	ug/kg	soil
		4-Methyl-2-Pentanone	8.00E+02		soil
		Toluene	5.50E+03	ug/kg	soil
		Ethylbenzene	3.80E+03	ug/kg	soil
		Xylenes	5.60E+03	ug/kg	soil
BH00073GA	70495 8.4-8.7	Methylene Chloride	8.30E+01	ug/kg	soil
		Acetone	2.70E+02	ug/kg	soil
		1,1-Dichloroethene	2.90E+01	ug/kg	soil
		1,1-Dichloroethane	6.80E+01	ug/kg	soil
		1,1,1-Trichloroethane	1.40E+02	ug/kg	soil
		Trichloroethene	1.20E+01	ug/kg	soil
		4-Methyl-2-Pentanone	2.30E+03	ug/kg	soil
		Toluene	4.20E+01	ug/kg	soil

Table 4.2.2 Volatile Organic Analysis-Contract Laboratory Program

Sample #	Location Depth	Analyte	Result Unit	
BH00054GA	70295 5.0-5.6	Acetone	4.20E+04 ug/kg	soil
		1,1-Dichloroethane	1.00E+03 ug/kg	soil
		1,1,1-Trichloroethane	2.30E+04 ug/kg	soil
		Trichloroethene	1.00E+03 ug/kg	soil
		Tetrachloroethene	1.00E+03 ug/kg	soil
		4-Methyl-2-Pentanone	3.00E+03 ug/kg	soil
		Toluene	1.30E+04 ug/kg	soil
		Ethylbenzene	5.00E+03 ug/kg	soil
		Xylenes	2.40E+04 ug/kg	soil
BH00060GA	70395 4.2-4.4	Methylene Chloride	1.08E+05 ug/kg	soil
		1,1,1-Trichloroethane	4.00E+03 ug/kg	soil
		Tetrachloroethene	3.50E+03 ug/kg	soil
		Toluene	7.70E+02 ug/kg	soil
		Xylenes	2.20E+03 ug/kg	soil
BH00062GA	70395 5.0-5.65	Methylene Chloride	1.08E+05 ug/kg	soil
		Tetrachloroethene	9.60E+02 ug/kg	soil
		Toluene	9.90E+02 ug/kg	soil
		Ethylbenzene	8.40E+02 ug/kg	soil
		Xylenes	6.60E+03 ug/kg	soil
BH00064GA	70395 7.0-7.4	Methylene Chloride	1.01E+05 ug/kg	soil
		1,1,1-Trichloroethene	5.00E+02 ug/kg	soil
		Tetrachloroethene	6.00E+02 ug/kg	soil
		Ethylbenzene	6.00E+02 ug/kg	soil
		Xylenes	1.40E+03 ug/kg	soil
BH00067GA	70495 4.0-4.35	1,1,1-Trichloroethane	7.00E+03 ug/kg	soil
		Tetrachloroethene	1.00E+04 ug/kg	soil
		Toluene	2.00E+03 ug/kg	soil
		Ethylbenzene	1.30E+03 ug/kg	soil
		Xylenes	9.60E+03 ug/kg	soil
BH00068GA	70495 5.5-5.9	1,1,1-Trichloroethane	1.50E+04 ug/kg	soil
		Trichloroethene	1.00E+03 ug/kg	soil
		Tetrachloroethene	1.90E+04 ug/kg	soil
		Toluene	4.30E+03 ug/kg	soil .,
		Ethylbenzene	4.30E+03 ug/kg	soil
		Xylenes	2.30E+04 ug/kg	soil
ВН00074GA	70505 2 2 2 5	Acatono	2.85E+05 ug/kg	liquid
DI 100074GA	70595 2.9-3.5	Acetone	2.00E+00 ug/kg	liquid

Table 4.2.2
Volatile Organic Analysis-Contract Laboratory Program

Sample #	Location Depth	Analyte	Hesult Unit	Sample: Matrix:
BH00074GA	70595 2.9-3.5	1,1-Dichloroethene	2.65E+05 ug/kg	liquid
		1,1-Dichloroethane	2.02E+06 ug/kg	liquid
		1,1,1-Trichloroethane	1.40E+08 ug/kg	liquid
		Trichloroethene	2.40E+06 ug/kg	liquid
		Tetrachloroethene	1.30E+08 ug/kg	liquid
		4-Methyl-2-Pentanone	1.77E+07 ug/kg	liquid
		Toluene	6.00E+07 ug/kg	liquid
		Ethylbenzene	7.35E+06 ug/kg	liquid
		Xylenes	3.95E+07 ug/kg	liquid
BH00075GA	70595 3.5-3.6	1,1,1-Trichloroethane	9.15E+05 ug/kg	soil
		Tetrachloroethene	6.80E+06 ug/kg	soil
		Toluene	7.65E+05 ug/kg	soil
BH00076GA	70695 5.0-5.5	1,1,1-Trichloroethane	1.10E+07 ug/kg	soil
		Tetrachloroethene	2.50E+07 ug/kg	soil
		Toluene	3.50E+06 ug/kg	soil
		Xylenes	1.45E+06 ug/kg	soil
BH00077GA	70695 5.5-6.0	1,1,1-Trichloroethane	5.00E+06 ug/kg	soil
		Tetrachloroethene	1.45E+07 ug/kg	soil
		Toluene	2.00E+06 ug/kg	soil
		Xylenes	8.50E+05 ug/kg	soil
BH00078GA	70695 5.0-6.0	Methylene Chloride	2.89E+06 ug/kg	liquid
		1,1,1-Trichloroethane	1.30E+07 ug/kg	liquid
		Tetrachloroethene	2.70E+07 ug/kg	liquid
		Toluene	4.00E+06 ug/kg	liquid
		Ethylbenzene	3.75 E +05 ug/kg	liquid
		Xylenes	2.10E+06 ug/kg	liquid
DU00070C A	70705 5 5 0 0	Mathedana Chlarida	7.20E+04 ug/kg	soil
BH00079GA	70795 5.5-6.0	Methylene Chloride Acetone	2.20E+04 ug/kg	soil
			4.30E+03 ug/kg	soil
		1,1-Dichloroethane 1,1,1-Trichloroethane	2.60E+05 ug/kg	soil
		Trichloroethene	4.20E+04 ug/kg	soil
		Tetrachloroethene	1.99E+05 ug/kg	soil
		Toluene	8.00E+04 ug/kg	soil
		Ethylbenzene	1.40E+04 ug/kg	soil
		Xylenes	8.30E+04 ug/kg	soil
		71,101100	2.202.0, 49,49	- • ••

Table 4.2.2 Volatile Organic Analysis-Contract Laboratory Program

	Egeation			Unit	Sample:
Sample #	Code Depth	Analyte	Result :	Measure	Matrix
BH00080GA	70895 7.55-7.9	Methylene Chloride	4.10E+04 u	-	soil
		Tetrachloroethene	3.00E+02 u		soil
		Toluene	4.00E+02 u	ig/kg	soil
BH00081GA	70995 7.1-7.75	1,1,1-Trichloroethane	9.50E+04 u	ıg/kg	soil
		Tetrachloroethene	6.90E+05 u	ıg/kg	soil
		Toluene	8.60E+04 u	ıg/kg	soil
		Ethylbenzene	9.00E+03 u	ıg/kg	soil
		Xylenes	1.00E+05 u	ıg/kg	soil
BH00082GA	70995 6.5-7.1	Methylene Chloride	2.60E+04 u	• •	soil
Duplicate of BH	00081GA	Trichloroethene	4.00E+03 u	-	soil
		Tetrachloroethene	3.00E+03 u	-	soil
		Toluene	4.00E+03 u	ig/kg	soil
BH00083GA	71095 7.3-7.6	Methylene Chloride	2.80E+03 u	ia/ka	soil
Briodosaa	7 1093 7,3-7.0	Toluene	3.00E+02 u	•	soil
		Toluene	0.002102 0		0011
BH00084GA	71195 7.1-7.75	Tetrachloroethene	6.00E+02 u	ıg/kg	soil
BH00085GA	71295 6.0-6.5	Methylene Chloride	3.00E+02 u	ıg/kg	soil
		Benzene	3.00E+02 u	ig/kg	soil
		Tetrachloroethene	4.00E+02 u	ıg/kg	soil
				,,	
BH00087GA	71395 7.2-7.7	Tetrachloroethene	6.00E+02 u	ig/kg	soil

Table 4.3.1
Field Observations-Soil Gas Survey
Photoionization Detector Results

Sample Lecention	Depth (Feet)	Observed Reading (PID max in PPM)	Comments
SG000195	3	19	1000 cc
SG000195	6	59	250 cc
SG000295	3	34	1000cc
SG000295	6	No recovery	collected water
SG000395	3	295	1000cc
SG000395	3	-	SG00002GA
SG000495	3	30.2	300 cc
SG000495	3	79.3	approx 500 cc
SG000495	3	-	SG00001GA
SG000495	6	39	200cc
SG000995	3	4.4	small volume
SG000995	3	4.2	approx. 300 cc
SG000995	6	30.2	small volume
SG001095	3	No recovery	soil too tight
SG001095	4	0	small volume
SG001095	6	30	small volume
SG001095	9	No recovery	No recovery
SG001195	3	9	1000L
SG001295	3	0	1000L

Table 4.3.2 Soil Gas Survey Analytical Results

Sample Number	SG00001GA	SG00002GA
Analyte		
trans-dichloroethane	13 U	58 J
1,1-dichloroethane	309 W	309 U
cis-dichloroethene	13 U	96 J
benzene	16 U	16
chloroform	51 J	37 J
1,1,1-trichloroethane	349 J	294 J
trichloroethene	22 J	559 J
4-Methyl-2-Pentanone	122 U	4157 J
ehtylbenzene	12 U	623 J
m,p-xylene	12 U	1569 J
o-xylene	12 U	415 J
1,1,2-trichloroethane	9 W	9 U
1,1,2,2-tetrachloroethene	219 J	19 J
Dilution Factor	10	10

^{*}Values are rounded and presented in mg/kg (ppm)

U-Indicates the compound was analyzed for but not detected (The value reported is the sample quantitation limit)

J-Indicates the value reported is an estimated value outside the component calibration range.

Analytes analyzed for but not detected under all three analyses have been dropped from this table

Results originally presented in mg/m³. The following conversion factor was used:

ppm= [(mg/m³) * 24.5]/Molecular Weight of Compound

Appendix A
Well-Site Field Logs

1	i i		ATE.	isca	CEPTH (FT) 9 00 Trench 1-2, 042 GR Nateer X1	Casi	NO ELEVATION (FT) 0 NG OLAYETER (CN) . HOLE OLIMETER (CN) 1	00 PPOLECT MITSER 0122-RFT/RT 1.06 OF EGRING NUMBER GEOLOGIST SEYAN HADER 7010 5
	SAPLE GRAIN SIZE	PERCENI RECOVERY	RECOVERTZ	DATURIETO	LELL OR PIEZGRETER CONSTRUCTION	FILHOTORA	OMETEE SOLIS CLASSIFICATION OR ROOK DIPE	CESCRIPTION
	501 100		1.00 /2.00	-1 <u>1</u>			C.	0.0-1.0' Clay dark yellowish trawn (10YR 4/2), sandy clay with same gravel (0.0-0.5'), slight plastic, moist, roots, slightly stiff to soft, gravel angular to sub-rounded, clay trace gravel and sand (0.5-1.0') and fill material, slightly stiff, plastic, moist, slightly discolored with some brownish black (5Y.2/1); and trace roots.
;				-N 2-		77777	2	No recovery (1 0-2 0') 2 0-2 12'
			3 12 /1 00		·		U L	Clay with trace grove: boist, scae as above (0.5-1.01), possible void at 2.51
		7777772haa		- ₀ 3-		7007778792	<u>n</u>	Mo recovery (2.12-3.61)
			0 05 /1 00		92/01/95		Û	Clay (CH/CH) organic, saturated, plastic, soft, light brownish gray (ST 5/1) to greenish black 1557 2/1) to greenish black 1567 2/1) to greenish black 1567 2/1) to
in			a mc // mo	_T _	∇		\ \ \	No recovery 13 05-1 01
			0.55 /1.00	_n 5_			<u> </u>	न तिन्य 5° Clay with Sand mod ्रवर्गाट्साइन brown (1878-574), saturated, appears singhtly angah ्रवर्गा, व्योवस्थात
			9 % 23	- u 6-				4 5-4 85' Clay mod veliculen crown (10YR 5/4) to dark veliculen prompe (10YA 6/6) pose ply top of weatheres bedrock, moist prostic, eart
								No recovery 14 65-5 6
				7-			CL	5 0-5 97 Clay mad wellowish chawn 120YR 4721 to sack reddish brown 120YR 3741, seft passing beast, bellowica
			กรา					No recovery 15 3-7 0 7 7 9-8 0 7
			IDAI	- G-			UL.	Stay same as above (5.3-5.3)
				J 3			CAYOTAE	3 Jra 3 Lee of Bedrock 3 Di Claystone Light staye prov. SV 5-11 stagnitiv blocky strengly weathered in the couler
							V. 	No conception (C. 2-2-2-2) Inter Section (C. 2-2-2-2)

38	STATE PLANE CEORDINATE NORTH 0 EAST 0 REMARKS	TOTAL CEPTH IFT) 10 00 AREA TRENCH T-2, GUZ LOCATOR MUTBER (1	GACINO ELEVATICA (FI CASTAS OLMETER (DA BOREHOLE OLMETER) (I		GEOLOGIST SRYAN HANDER 70001		
SAMPLE NUMBE	PERCENT RECOVERY INTERVAL	E S CONTROLLOR E PREMIUM E SONTROLLOR E SONTROLLOR	THEORY DESCRIPTION OF THE CONTROL OF	FICH		-	
01	1.50 /2.5	N1 1-1		trul	pale brown 157 moist, soft, p ck + plastic, b f g gravel, 0 d very dark at (1.5-2.01)	3 5/21 to dark vellouish brown icstic, fill material - trace acer 0 5'- roots, f g. to c g. 17-0 9' some gravel, trace 1.2', maybe organic material black	
10052GA		T _ 2 _ 3 _	//// Q	2.0-2.25' Clay Tight aravish Sti # 0'25' sti No recovery	alive grs. 57 e green (51: 5 ef on top (2 25-15	7 5/2) with pale green (106 6/2) to 21 coist very soft, very plastic	
		20075 -T +	January 1	4 O-4 75' Clay same Water 0 4 9 No recover	es cbove 14 3-4 5-4 5 7 7 (4 75-5)	EST) anthout blue green color	A STATE OF THE STA
HOOSEA		5		5 0-5 65 Clay pale staining a very plast Mainecover	yelicxish chcwr (5.5) movet so (6.6%) (5.65-6)	n 1978 5/2), dark oray (N3) n saturated, very soft to soft,	
HOOSSGA	15 i	-9 6		ME 603-635	anck 5 1'	cy (5Y 5/1) to light brownish erey crity prestic, blocky, limonita crines, very weathered	
				NE 7 0-8 4' Cleystore brown 1107 Trent grey blocky, ac No recover	dock velica sn 4/2) Finings Who storn no ist to come set y (8/4-9/2)	chewn (10% 4/2) to donk yelloxish e staining along fractures and god o ang fractures, very weathered, in fricale	
Mush				Clayetone No recaver	same as onlye y 33 3-13	7)-3 51)	

ER		STATE PLANE COOPDINATE NORTH 0 EAST 0 RENYRKS		ATE	TOTAL CEPTH (FT) 10 00 AREA TRENCH T-2, OUZ LOCATOR MURBER XI		GEGINO ELEVATION (FT) 0 CO CASING OLAMETER (DN) BEREHOLE DIAMETER (IN) 1 CO			PROJECT NUMBER 1924-FT/RI LOG OF SORING NUMBER GEOLOGIST SERVEN NAMEER 70305 GATE ERELLED 19750/95
SAMPLE NUTHER	SAPLE SFAIN SIZI		PERCENT	HCCOVERY/ INTERVAL	DATURETA	CORESTITION PIETE EILE PIET EILE	L13401.057	UNIFIED SOILS CLASSIFICATION OR POOK TIPE	æ	RDICH
	50	100	I (F. 10)	0.80 /2.00	N	C		a	O I's Glaboro	5-0.8' y to Gravelly Clay with trace of Sand dark yellowish in 1107R 4/2) to pale of ive 1107R 6/2), noist to damp, ts 5-0.8' f-c gravel (atzital sub-snaular to angular, fig c a sand, sub-angular to sub-rounded, slight plastic,
				05/100		3-1		Q .	3 0 Cla (57) 000	recovery (0 8-2 0') and (1 8-3 0') -3 55' y with trace Sandi grayish brown (5'/R 3'/2) to dusky brown R 2'/2), soft, moist, plastic, i g to a g sand, some anics or slough on upper 3 15' tip has black (NL) alay, 5' very organic
mig				17/10) J	4 0 Cla	I-4 3' y gravish brown 1513 3/2' to cale green (186 6/2), odor,
00627÷				5 TO 18 M					4.3	-477 yearvive plastic 10 very hand, because saturated at
MI:				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21	V		2 1 1 2 1 ME	5 0 Tee 016	recovery 14 7-5 0 1. 1-5 7' 1-6 7' 1-7 8-2 Pedrock 5 0' 1-7 19-3 Pedrock 5 0' 1-8 19-3 Pedrock 5 0' 1-9 2-3 Pedrock 5 0' 1-9
HOOSEA					-7	2		CLAS DE	Old pec yer find	9-10-0' pystone same as above 5-3-5-7') with intensited staining of trace of gray staining promotions promotions, very weathered, bened harder at 8-9', ibundent discoloration, 9-1-9.5' entical fracture with photocoloration, wet along potures, blacky inecovery (6-8-7-0') in 1-3-9-0' and (9-9-10-0').
HMEE								/	Īgi	iai Bepth Brilles II II

e a	STATE PLANE COCROINA NORTH O EAST O REMARKS	East 0 -			CASI	O ELEVATION (FT) OIANCIER (IN) OIANCIER (IN) OIANCIER (IN)	1 CO	PROJECT MUSER OUZ-AFT/AT LOG OF BOATHS NUMBER GEOLOGIST BAYAN HANDER 70495 DATE DATULED 32/02/95 70495			
grand S	MANE MANAGER M	RECOVERY/ INTERVAL	DATURIETO	FILL OR PIEZOTETER CONTRUCTION	FTLHOTOEL	CASSIFICATION CASSIFICATION PRODOX TYPE	RESCRIPTION				
01	50% 100% 05 100	1.07.00				Q.		ay with some grave iff, damp to moist g to c.g. gravel (ery (1.1-2.0')	i mod vellem siight plast qtzite)	nsh brown (1849 ne, fig to eig	
		9 52 /1.00	N 2-1			Q.		oy with trace gray e same as 0.8-1.1	e! argyish br with less gra	om (SYR 3/2), vei	
		0.55 /1.00				Ü.	3 0-3.85 Sandy Cl	ery 12 5-3 0') ' oy some as 2 9-2 ', light alive gra		a clay interbed from destric, soft	
र्वित		03/13	4 S	2/12/9 		\	÷ 0-5 0'	ery (3 85-4 6) got gray (16) to b	laax (NI) sof	t piestic, wet to	
in the state of th		932				1	%o resev	oturates pt 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			
H:		99 13	,						r NED to mod Propay wet alon	yellowish brown ng Practures, very	
TEA COMMITTEE CO		104 I				2.67 Mg	<u> </u>	very (5 83-6 87) Di ne some talkookali Di from 3 3-60 1	5 1-5 9% bet	cones brownish gray nocules, light blive inchite staining	
XA		957.10						(1572) and Hight gradures ractures very 16 3-7 911 cm		esame summig	
		i e a c					7 7 7 1.50 1.50	aprin În 127 III.	•		

CHLILLON BANPLE DEPTH SAMPLE DEPTH SAMPLE TURBI		STATE PLA NOR EAS REMARKS			AREA TAB	14 (FT) 4 50 ICH, 042 INBER XI	CASI	NO ELEVATION (FT) 0 (NG DIAVETER (DN HELE DESIETER (EN) 1 (PROJECT ALTRER GEOLOSIST DATE ORTLIED	GUZ-9F1/RI LOG OF BORING NUMBER 68/AN HABOUR 70505 68/67/95 - 70505
GRADATIONAL SAMPLE HUMBI		SAPLE Grain Size	PERCENT	INTERVAL INTERVAL	DATURLE D DEPTHIFT	CONTROLLER SELECTION SELECTION	TIHION	UNITED SOILS CLASSIFICATION CRESCO COPE	OCSCAPTION	-	
Action for the second s	G	501 1001		1.00 /2 00	-1- 5- 5- 5- 5- 5- 5- 5- 5- 5- 5- 5- 5- 5-					ight olive groy to moist, soft,	crk yellowish brown (10YR 4/2), crovel, sub-angular to astic, stiff (15Y 5/2) to dusky yellow 15Y plastic
3007 C i				3 10 / 1 10	3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	8/07/5 		NO RECOVERY	No recovery Yord from 2		
AZTOORE				9 9 M 9 1 10 M 9 9			7.7.7.7	Q.	3 5-3 5' Clay soft No recovery	@ 5-4 9°	
								NO RECOVERY	4 3-4 S No secovery		
					3 6			<u> </u>	Total Beeth	.Oriileo 45ù	
					3						
					1						
] [9]						

	STATE PLANE COCPOIN NORTH 0 EAST 0 REMARKS	ĄĘ	TAL DEPTH (FT) 7 00 EA: TRENCH 1-2, 042 CATOR NUMBER X1	CASING	ELEVATION (FT) 0 OLAMETER (EN) Elotaneter (EN) 1	GEOLOGIST SAYAN HARDER 7000
array and a second	PF TAI ME COVEN	RECOVERY/ INTERVAL DATURIETO	FILTORETER PILTORETER CONTRACTION	LINGERT	UNIFIED SOILS RESUltantan Proxok pre	COMPTO
C	50 100 G 16	020 17.00			N.	O O-O 2' Graveily Clay with Sana dark yellowish brown (LOYR 4/2), dry to damp if g to dig provel, sub-angular to sub-rounded, slight non-plastic, stiff No recovery (0.2-2.0')
	TERRITARIA.	. N N N N N N N N	2 3/10/5		NO RECOVERY	2 0-4 0' No recevery Hand at 3 3' Vaid from 3 0-4 0' Water/liquid at 3 0'
		-T			NO SECONDAY	4 0-5 0" No recovery
0776G 0776G 0776G		÷	7		Q.	5 9-5 5° Sancy Clay Idan's velicialish brown 10Y8 4/2), soft, plastic, saturated
		0.73 4	5		ENCIME	5 5-7 0' Top of Bedrock 5 5' Claystone: Front playe gray (157 5/2) to mod yellowish brown (1078 472), wet Ear't No recovery 16 6-7 9''
		9	\$ -		:	Total Depth Drilled 7:30
		7	<u></u>			

	STATE PL NBA EMBARKS		TE.	APEA IR	EPTH (FT) 10 00 IDIOH T-2, 0U2 NOTEER XI	ISAS	NO ELEVATION (FT) 0 (NO DIANCIER (EN) POLE DIENCIER (EN) 1 C	GEOLOGISI STYAN HARRER 7070F
SAMPLE AUME	SAPLE GPAIN SIZ	PERCENT	RECOVERY/ INTERVAL	DATURIETO DEPTHIETO	PELL OR PIESPETER CONSTRUCTION	FERFOLORY	ONFIED SOILS CHESSIFICATION OR POOK THE	ISERPTICA -
or control Control Tolkasia Control Co	or 501 100		1.50 12.00	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				O G-1.5' Sondy Clay with some Grave: gravish brown (SYR 3/2), stiff, dono to dry, shightly plastic, inglife a gravel, inglife a gill sand about 20% sand. No recovery (1.5-2.0')
			1.10 /2.00	N 2-	9875		GL Fr	2 0-2 5' Sondy Clay scale as 8 0-1 5' 2 5-2 95' Shifty Sand too yellewish brown 11078 5/4), loose, acist to wet, fin sand, arcacecus
			_	<u>r</u> − 1				2 95-3 1' Sandy Clay with trace Gravet and yellowish brown (10YR 5/4) to dark gray (NG) algebra. Soft wet to saturated water at approximately 3.1 alcocedus No recovery (3.1-4.9).
OUT FEA			200.200	: ::::::::::::::::::::::::::::::::::::			TEN STORE	Sandy Chay I scree as above 12 95-3 17) 4 25-5 07 Clayestate I right office gray 1513 5/20 to Fight office shown (51 5/6), eaft, forcable, cassive
		AND AND AND THE PROPERTY OF TH	2%.2%	A: 1			VO FECOVERY	5 J-3 9 No recovery
			15.30					3 0-9 45' Claysters same as above of 25-5 0'0, at 9 0' inconstant accordation to 1' thick. Me recovery (9 45-10 0')
							/	otgu (soth) in leg living

<u>a</u>	į	STATE PLANE COORDINATE MORTH 0 EAST 0 REMARKS			CEPTH (FT) 10 00 Redich (-2, GUZ R worser XI	GROWD ELEVATION (FT) Casing diameter (in) Sorehole ciameter (in)		9 CO 1 CO	PROJECT WIFEER GEOLOGIST Chie Crilles	CUZ-SFI/RI SRYAN WARDER VB/CO/PS	7005	MSER -
SAMPLE NUMBE?	SAPLE GAIN SIAI	PERCENT RECOVERY	RECOVER (/ THTERVAL	DEPTHIFT	4911 09 PIEZDETER CONSTRUCTION	(TINDLOGY	SILS SILVA LASSIFICATION POT XOS R	ŒSCRIPTION				-
B	501 !	001 01 1000	1.10 12.90	4) JL	0 0-1 1' Sondy Ch dark yel 3/4), st c. grave	gy with some India lowish brown 1918 iff to soft, стут I, oppears to se f	pottled gro 1972) to dark to dang, fig it til, roots, tr	yish black (N2) to reddish brown (10R o c g. sand, f. to ace calliche	
7.12 - 2.12 7.12 - 32.2 7.12 - 32.2								No recov	ery (1.1-2.0°)			
				N 2-				2.0-2.3° Sandy Cli to moist	gy dusky ye: DXIS Yery sort, EDTE	n prown USYR Fig. 6 o g s	2/2), plastic, wet and	
			0 \$ 2.00	, , ,	92/19/55 			2 3-2.55 Clay po gray (5Y trace in	ssibly weathered b 5/21 to pale stry a sand (3)	secrock at 3.0- re (10Y 6/2), v	3.5', light olive ery soft, plastic,	
74.								No recov	erv 12 55-4]			and the second
			1020) in	4 0-4 1' Clay so possibly 3 0-4 0'	ne as above 1.3-1 sand (?) waten e	1 557), thace consountered at	citche nodules coproximately	
				1				No necov	ery (4 1-5 0)			And the second common c
			. 20 % % % % % % % % % % % % % % % % % %				71.2357 W E	weathere	re light aline and raining along indo	ov (5Y 5/2), st tunes, cassing	rit plastic, ron Priable, strongly	
002074			300000000000000000000000000000000000000	,				HO 1 6667	ort si vivile			
				3 3			LANAL	8 0-9 99 Clayster exide or	o' na anav stato oj o	100 (1307) 100 100 (1307) 100	g weathered, inch	
			5.00) <u>1</u>				No recov	very (9.55-10.1)			
1								1.53	<u> </u>			

-	STATE PLANE COOPDING NORTH 0 EAST 0 FENANCS '	iiE	AREA IRE	EPTH (FT) 10.00 GROUND ELEVATION (FT) O DICH T-2, OUZ CASING DIAMETER (DH NUMBER XI SOREHOLE DIAMETER (EN) I			00 PROJECT NJESER 912-SFIJRI LOG OF EGRING NJESER 00 DATE DRILLED 68/09/95
SAIPLE RUIT	HE C DIS	RECOVERTY INTERVAL	DEPTHIFT	HELL OR PIEZONETER CONSTRUCTION	L1THOLOGY	UNITIED SOILS Olassification or rook type	CESTRIPTION
03	2C 1002 U 100		-			CL	0 0-1.25' Sandy Clay with some Gravet dark yellowish brown (10YR 4/21, stiff to soft, damp to moist at 1.0', slight plastic to plastic
		125 7.00					No recovery (1.25-2.0')
			2-			Q.	2 0-2.55' Sandy Clay dusky yellowish brown (10YR 2/2), fig. to a g sand, angular to sub-rounced firs gravel prediff gravel, sub-angular, moist, silight plastic, soft
		3 5 .2 00 4					No recovery (2 55-4 0')
		-				м м	4.0-4.2" Sandy Clay some as above 2.0-2.551)
		35.20				CLAYSTONE	4 2-4 8' Claystone light alive and/ (5% 5/2), soft, moist, plastic, trace colliche nodules, sec to strongly weathered
							No recovery 14 8-5 80
			, 5 <u>1</u>			SLAYSTONE	6 0-7 75' Claystone scale as above if 2-4 91)
1020A 10210A		7 7 7 8 9 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1					We recovery 17 75-€ 179
			4 3			CLEYSTONE	5 -3 9° Claystone isose os cooke i 3-4 9°), sod weathered
		Han	<u> </u>				No recovery 13 3-10 1
			1				Total Bern Drives No. 12.12

SAINLE DEPTH	STATE PLANE COORDINATE NORTH 0 EAST 0 REMARKS	AREA TRE	PTH (FT) 10 00 PXCH T-2, OU2 NUMBER -XI	CASING D	DAKTER IDII	0 00 1 00	PROJECT MUTSER GEOLOGIST Date drilled	CUZ-FF I/RI ERYAN HARDER CB/CP/95	106 OF EDRES NOT	STR .
GIRDATIONAL S SAITVLE HUNDER	E E E E E E E E E E E E E E E E E E E	RECOVERTY INTERVAL DATURIETO	FELL OR PLETITETER CONSTRUCTION	FILHOFOCA	CARSTITUTE SOILS CLASSITUTEATION OR ROOK FOR	ESCRIPTION .				/
33	202 1002 02 1002				Q.	0.0-0.9' Sandy Clay to mod. ye F-c gravel	with some Silt Howish brown (1 , f. to c. sond,	dark yellowish OYR 5/41, dry roots	h brown (10YR 4/2) te damp, soft, trace	
		0.90 /2.001 11				No recover	y (0.9-2.0')			
		<u>.u</u> 2			î.	2.0-2.5° Sandy Clay moist, son	r with some Silt t, fg to cg	dusky vellowi sand, slightly	sh brown (10YR 2/2), plastic	,
		050700 m					ry (2 5-4 0')			
		1 3				14 G-4 87 Grove Hy 1 Hara 574	Clay with some 3	i.T and Sand T	nod yeilowish brown non to slightly	
		3020 0 =			Lacatori	piostic	·		sît moist, plastic	
		<u> </u>					e light blive gr ery (4.9-5.07)	10 (151 (172), 13	ert, moist, prestic	
. ACCOOK.		150 0 00 4 7-			\			rc. (31.5/3), s kv. formie, 11	soft aplist picstic cce colliche nocules	
4		1 3				30-100	ery (7 6-8 0°) , e some as opcya	- j JF j')		
			The state of the s							
]	epan Oni (Ed. L.)			

BAIIPLE OEPTH		STATE PLAN NORTH EAST REMARKS	it 0	£	AREA II	CEPTH (FT) LO OO TRENCH, OUZ OR NUMBER XI	CASING	ELEVATION (FT) OTAMETER (EN) LE CTAMETER (EN)	3 00	PROJECT NUTSER GEGLOSIST CATE DRELLED	112-851/AT 9874N HARDER 13/13895	105 OF GORDS MUSER 71105	
GRADATIONAL SAMPLE NUMB'	GRV SI	AMPLE RAIN SIZE	PERCENT	HECUVERT/ INTERVAL	DEPTHIFT:	ELL OR PEEDFETER COSTRUCTION	T1947061	RING CETURU Kothatetero Brot Xoos Ro	TTAPIO	CH CH			4
	or S	501 1001		1.970	المارية					4' Clay with some Grave 4/2) soft to slight fig to cig sand, fi unded overy 11 4-2.0'		dark yelloxish brown ightly plastic, dry to uo-angular to	
				0.05/2.00_	-N 2-	**************************************		M GL		05' Clay with some grave (4') overy (2 05-4 0 1	e file and u	icae as above	
				3 % 12 00				12:00 M		45' Bearock 4.0' tone light olive are '2), damp, sort plas tovery (4.45-5.3')	сын (57 5/6) stic, siceky	to light ofive grav Prioble, weathered.	
3103 1 A				15.23	3			QLA CETONE		757 Tane same as above une with inch oxide or gray (5Y 6/1) Covery (7 75-8 21)		at 6 4′70 degree in becomes moré i ight	
					7 A			CLASIONE		0.07 tone some as 4.0-4 gray (57.5/2) hand	-151 (300ve, 30 wa 17000tures	.comes stiff, light	The section of the contract of

	STATE PLANE COORDINA WORTH 0 EAST 0 REMAKS: '	[AREA OUZ	PTH (FT) 10 GO 2 Parder X1	CASING DI	EVALIGN (FT) 0 00 EMETER (DN) OTANETER (DN) 1 00	GEOLOGIST SETEN WEER 71005
SANPLE NUMB	TINE TO THE TRANS	RECOVERY/ INTERVAL	DEPTHIFT)	SELL OR PIEZOSETER CONSTRUCTION	THOROGA	Unified Soils Classification Or Poox Tipe	DESCRIPTION
27	501 1900 CI 200	1.5 1/2 00	1. T			Q.	0.0-1.45' Sondy Clay with some Brove: and Silit dark vellowish crange (10YR 6/0) to dark verioxish brown (10YR 4/2), dry to dasp, stiff, f-c gravel, f to a scholar vellowery (1.45-2.0')
- , '		2-2-4	,	e, meneral que		. v	
7. 4			-N 2-1			a	2.0-2.5' Clay Traint dirve argy (57.5/2) to dark yellowish argrae (10YR 6/6), soist, sait, plastic, trace coliche nodules and possible arganics (natural) possibly weathered bedrock
		1970	3				No recovery (2.5-4.0°)
		277.00		39/1 9/5 		1	4 G-4 G' Sanav Clev with Fine prover cork vellowish brown, holst, soft filig to alg sana, il gravel, trace organic and peat
		0 20 72.00	F7 5-			 ا	4 6.4 8' Clay Tright gray (N7), scir, prostic moist, possibly weathered bedrock, becases wet at 5 0'
18564 18564			-d 6-			- PARTIME	No recovery (4.3-6.0) j 3-7 5' Top of Bedrook 5.0' Claystone Tight office grow (5Y 5/2), singhtly plastic, apiet blocky, fright weathered
		: 3 % 3	7-				Mo necovery (7 Sh3 2/1)
		(2)	3 a a			IL-YSTONE	8 8-8 5 Claystone seme as above 6 8-7 51) No recovery 13 5-18 111

		STATE PLANOR NOR EAST		[AREA: I	EPTH (FT) 10 00 RENCH T-2, 0U2 1 NGPEER XI	CASIN	G DIAYETER (IN)	1 CO PROJECT NUMBER CUZ-FFURI LOG OF BORINS NUMBER GEOLOGIST BRYAN HAGER 7 1 3 9 5 LOG CATE BRILLED COVORYS 7 1 3 9 5
SAMPLE RUMB	574 31	Æ	PERCENT	RECOVERY/ INTERVAL	DATURIFT) DEPTH(FT)	LELL OR PIEZDETER COSTRUCTION	(Thanca)	Unified Soils Olassification Or Rook Type	ESCRIPTION
	9 x 5	(100 1			0			CL	0 0-1.7' Sondy Clay with trace Gravel mod yellowish brown (107R 5/4) to dark yellowish brown (107R 4/2), slightly stiff to soft, plastic, dry to damp, f.g. to c.g. sand, f-c gravel
) 1 (2) 1 (2) 4 (3)	The second secon			170/200	- H	موارد المعادل المعادلة المعارد المستعدد الم			No recovery (L.7-2.0')
					-N 2-1			Ü.	2.0-2.2' Clay mottled, light plive gray ISY 5/2) to mad brown (5YR 4/4), moist, point, plastic
				0 50 72 90	-n 3-1			55	2 2-2.5' Clayey Sang with gravel dusky yellowish brown (10YR 4/2), noist, slightly plastic, dense, fig. to cig. sand, fire
								ü.	gravel 2 5-2 6' Clay montried, cark yellowish brown (19YR 4/2), monst, soft, and a prostic
				9 30 72 00	<u>.</u>				No recovery (2 6-4 6 1)
					- 6			Ü	4 0-4 7' Sendy Clay with trace grave: dusky vellowish brown (1019 2/2), maist, soft, stightly plastic inglita ag sand, fire gravel
				1797290	7-			1	a 7-4 gr Clay licat cline groy (5) 5/2) saft moist plastic cossibly weathered technocx
10027GA								CARSIONE	No recovery 14 3mb 011 So of Bearack 5 01 November such allive array (51 3/2) From exide staining
					L'II 9				Claystone (light allive ency (51 572) from exide staining along frostures, soft plastic, placky, fridele weathered. We recovery 17 7-3 31
				2 0 ? 0	n 0			CLASSIONE	3 0-10 8' Claystone same is above à 0-7 7''
								/	Grai Secricia de 2000 de 1000

988051 1 ⋖ Cr VI ≥ ¥ SZH ≥ ١ | w| w| w| w| w| w| m | m 00C ANALYTICAL CHARGE # DOT ェ တ cop TEMPERATURE WITHIN SPECIFICATION PCKG REC'D/CUSTODY SEALS INTACT CYANIDE ۵ Diss Ortho-Phos ⋖ SAMPLE LABELS/COCs AGREE PROBLEMS OR DISCREPANCIES CORRECTED COPY ATTACHED OIL & GREASE LABORATORY USE ONLY В **EHN** ⋖ 8 Ö N SE SON/EON ⋖ (S) YTIJAUQ RƏTAN Σ (OTAL Metals-CLP+(1) Ship WHITE and YELLOW copies with samples -- Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal ۵ CFb CBs/PEST Ω BNA - CLP > O AOA - 524.2 com. 40V - CLP LAB/LOCATION DH R-1-95 1620 100 Ce//20 BOTTLE **PRESERVATIVE** DATE/TIME 42504 FONH 1 HOAN COOLED TO 4°C SHIPMENT METHOD: Corr OUT OF SPEC REPORTS COOM YXAM HEUR AROUND RUSH FILTERED, U=UNFILTERED W=WATER MEDIA: S=SOIL, FAX Ext NUMBER OF CONTAINERS AIR BILL NO .: YOMC AB CONTAINER Ŀ TYPE, SIZE, RECEIVED BY 702-6 9.20% 402.6 UNITS 402 -SAMPLERS . 402 -402 140 m Ray Michael (303) 960 4930 EG&G ROCKY FLATS, CHAIN OF CUSTODY LOCATION 1867 70285 di/55 1620 540 70195 CODE 70205 70195 DATE/TIME 3. 12 (2) TSS,TDS,CI,F,SO4,CO3,HCO3 18-2% RFP 905931 REMARKS (1) INCLUDES CS,LI,ST,MO,SI,Sn 1530 Bit 000586A SAMPLE NUMBER BHOOOSLEA 8H000556A BHOOUS 7EA R4000545A BH00052BA 3H000536A PHOOD SIEA GO! DFR Just 166. notor General Chemistry SITE CONTACT/PHONE RELINQUISHED BY 1376 TIME C-O-C NUMBER 6001 75P 5421 55/ 131 Mark CONTRAC DATE ×14

Form: EGGRFP-121593-GWCOCGC-v1.2

VOIK (Q) 8663

Fax Results to Robin

			SAMITICENS 1	-											0	1	Ì			! i	יייי יוייי יוייי יויייי יוייייי יוייייי		:				
ITACT,	SITE CONTACT/PHONE	Ray Michael (203) 966-4930		FAX Ext	ı,	18070	0	ے ۔	LAB/LOCATION	CAJ	NOI				D						1						
	U	4						r —				 	V B	Ь	Σ	M	WW	3	3	3	<u>^</u>	w w	<u>×</u>	W	×	-	
אַמּבּא	HFF COSSIS	0						_—	82	BOTTLE	\	Н	IJ			*	A B	В	၁	Δ	E G	H		ſ	¥		
			1						PRESERVATIVE	ATIVE		-					A.C	∀.		∢					4	_	
S S C K	EG&G ROCKY FLATS, CHAIN OF CUSTODY	OF CUST	Yac	NI V ZIN				<u> </u>					ำ		(1)+d		(2)			*							
I Che	General Chemistry			00 10											tals-CL			N. CP	∃S∀	soyd-			••••••				
TIME	SAMPLE NUMBER	LOCATION	CONTAINER TYPE, SIZE, UNITS		MEDIA: S	F=FILTER	R=TURN A	COOLED	HOAV EONH	H2SO4	на	VOA - CLE	NOA - 524	SCBs/PEST	∍M JATO1	OISS. Meta	WATER QU	7H3	OIL & GRE	Ortho	CAPAIDE	000 100	200	SZH	IV 10		
3824	BHOOUSTEA	56702	19	Ť		1	-	×		+			+—	+		4-	4—	↓		1	4—	↓		٠	,	╁╴	-
6460	BH 000606A	203606	Steaux	_	S		╁	×	 	_		×	\vdash	<u> </u>		T	\vdash	-		1	-	-	↓_		\dagger	╁╌	╀
0101	1340000HB	36:02 11	HOME A	15 2	3		-	×	\vdash	<u> </u>		×	┝	_		┢	\vdash	-		T	╁╴	├	<u> </u>		T	╁	┡
1015	18H 000625A		40Z-E	2	ŝ		-	×	_	ļ		\overline{x}	 	_		╁	\vdash	-			┼-	├	<u> </u>		1	-	-
1001	BH0006636A	258 of VI	Sleeve	/	3		-	×	\vdash	_		×	-	_			╂─	ļ		Г	\vdash	-	<u> </u>			┢	-
C 501	BH000646A	2 70 355	Sleede	C	5		\vdash	>	_	L		×	├	<u> </u>		 	-	ļ		T	╁	-	igdash		\dagger	-	-
							-		_	_		\vdash	\vdash	_			-	_		T	╁╌	├	├-			╂─	┼
					_		-		-				╁╴	ļ_			-	-		T	十	╀╌	-		T	╂╾	╀
										*	_		-				-				╁	╢	ļ		\vdash	-	-
													_				-	-			┢┈	\vdash	<u> </u>			┢	-
	-			, J. J.			-										-	_				-			\vdash	\vdash	-
																	\vdash						-			╁╴	-
							Н		Н				\vdash									H					
				\dashv	\dashv		\dashv	1	\dashv	_				\dashv		寸	-	_			\dashv	\dashv					
				+			+	1	\dashv	-			\dashv	+			\dashv				+				1	+	
RELINQUISHED	ВУ ,	DATE/TIME	REÇEIVED	- ≿	.]	\exists	7 à	L L L L DATE/TIME	- ₩	J		LABORATORY USE ONLY	18		1 ≿	- ISI	- N	_	1	1	1	-	1		-	┨ ²
1			W / 1 / /	71.11	1	K		ĺ	8	(, 4),	3	<u></u>	FOX TIME OF EACH OF STATE OF S	ì		1 2			{			1.				-	<u> </u>
~ [Z	12/2 Jours	25/130	2000		0			3-7-13	$\hat{\mathcal{L}}$	$\left[\cdot \right]$				Ž	3	3	3	7	2	Ξ	- - -		l			\sqcup	
Me	Carl 6395	2 <u>10</u> 2		- 4		- 5		64. K.	35	₹. \$1.	 		SAMPLE LABELS/COCs AGREE	J.E	LABI	ELS/	00,	s A	SRE								.
												•	TEMPERATURE WITHIN SPECIFICATION	PER/	\TUF	Œ V	IHT!	N SF	ECIF	ICA.	TION			\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	ပ		
				-)	CORRECTED COPY ATTACHED	RECT	ED (COP	Y AT	TAC	HEL								
REMARKS (1	(1) INCLUDES Cs,Li,Sr,Mo,Si,Sn (2) TSS,TDS,CIF,SO4,CO3,HCO3	i, Sn HCO3	IHS	SHIPMENT M	METHOD Hand	400	انّ	900		lind	į	ц.	PROBLEMS OR DISCREPANCIES	3LEN	IS OI	Z Z	SCR	PAN	CE	ر. در							~ 't

Ship WHITE and YELLOW copies with samples -- Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal

4	ı	_	<u> </u>					<u> </u>	I			Γ	ı	Γ								Т	T	z			i		-54-	۲.
18805]	┝	$\left \cdot \right $	-				├	-			 -					\vdash	\dashv	\dashv			+	1					3	1/3	Form: EGGRFP-121593-GWCOCGC-v1.2
\tilde{p}_{H}		\vdash		-				╁	\vdash			┝	<u> </u>	 		_						十	1	>	``	* .		_		000
्रा		3	$_{\perp}$	₹			Cr VI	-	 			\vdash	-			-						十	1				Ų			3-GW
*		3	_	-			SZH	<u> </u>						-						\exists		\dashv	1							159
_ [-	_			DOC	\vdash										\neg		\dashv		_	1				z			P-12
3E #		w w	Ξ	┪			201																							3GRF
1AR(≥	Ŋ				COD																		5		짇			r. EC
ANALYTICAL CHARGE #		_≥	ш				CYANIDE													_	_		4		PCKG REC'D/CUSTODY SEALS INTACT		TEMPERATURE WITHIN SPECIFICATION			Forn
<u>S</u>		≯	٥	⋖	*		Diss Ortho	L	_									_	_		\dashv		4		S	ш	FIC,	۵	S	
5		≥	U			BSA	OIT & GRE	_	_	_									\dashv	\dashv	\dashv	\dashv	4	בׁ	EAL	GRE	PEC	뿡	NC.	l
Ā		W W	В	< /		AL CP	NH3	-	_	_	_		_					\dashv	-	-	\dashv	+	\dashv	ONLY	Σ	Ss A	N S	₹	EPA	
۹ ا	-0		В	O A	(2)		WATER QL	-		\vdash								\dashv	\dashv	-	\dashv	\dashv	1	JSE	о	၁၀၁	H	Æ	SCR	
	\c	W	٧	\dashv			DISS. Meta	-	-	Н					-			-	+	\dashv	\dashv	\dashv	1	<u>۲</u>	:SUS	LS/	ΕW	g O	SiO	
		Σ		\dashv			M JATOT	┢	-										\neg	\dashv	7	十	1	LABORATORY USE	70,	SAMPLE LABELS/COCs AGREE	TUR	CORRECTED COPY ATTACHED	PROBLEMS OR DISCREPANCIES	>
ļ	W	<u>a</u>	\Box				PCBs/PEST													ヿ				RA.	REC	E L	.KA	J.	EM.	doo l
	V	В					вим - СГР]	8	KG 1	MPL	MPE	RRE	OBL	field
		>	၁	ပ			22 - A OV											_	\dashv	4	_	-	4	ک	ЪС	· SA	TE	ဗ	PR	REEN
	z	>			ر ده در	ا جرد	VOA - CLI	メ	Х,	×	X	X	Х,	×	\times	\succeq			_	_	_		4		N.	, (-			-	ain G
	LAB/LOCATION	_	<u> </u>	_			на		_						1		\Box	\dashv	\dashv	4			4	ш	630	030			por	Ship WHITE and YELLOW copies with samples Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal
0	SQ	<i>,</i> :	BOTTLE CODES	TIVE			H2SO4	_		_					1			\dashv	\dashv	\dashv		+	\dashv	₽		. 1			. 3	les
·	3/L(<u> </u>	PRESERVATIVE			HOAN EONH	_		-					•				\dashv	\dashv	\dashv		\dashv	DATE/TIME	K	12			0	amp
, ,	Š			PRES		+ O1	COOLED	7	>		7	٠	. >-	7	, X 37	Ţ	\dashv		\dashv	\dashv	+	\dashv	\dashv	A	8-2-13	ريرور			7	vith s Data
7	1	Γ			·		OUT OF	 	-	>-	ŕ		<i>'</i>	-				-	+	\dashv	-	十	┪		<u>%</u>	(<u>)</u>			Q	vies v
	0						к=т∪ви		-													1	7			7			метнор <i>фото</i> ц <i>О</i> 0 .	V cop
~	6070		ED	RBT_	=טאצור	ep' n	F=FILTER								73										X	. 7			100	to R
U	ار						S :AIDBM	$\overline{}$	5	S	5	5	/5	W	3	S									3	7.4			빏.	d YE
1	EX			IEBZ	NIATNO	OF CC	NUMBER	ļ	1	11	I	I	I	į	7	_	_	_	_	\perp	4	_	_		Y	1				E an
Y	FAX	1.5					IER ZE,	12 to 1502	2		۸.	Q;	3	ď	5	10							١	B⊀	1		× 2		SHIPMENT	e N∃ B B
S	:	ं					ONTAIN PE, SIZ UNITS	7	3	3	\ \frac{5}{4}	0000	3000	3						1				Ü	4	5			<u>₹</u>	Ship Peljs
SAMPLERS	9	- ;;					CONTAINER TYPE, SIZE, UNITS	1	4000	5/04/0	51000	10	9	5/00	4000	5100							ı	RECEIVED BY	7	0				
AMA	0.0	1		1	\succeq		0 -	12/	-	(V)	1	V :	7.3	- 3	14	7		\dashv	\dashv	\dashv	\dashv	\dashv	-	₩,	J 4			1		
Ŋ	Ray Michael (303) 966-4930	1			ᅙ		<u>v</u>	15	M	1	۲	امرا	\searrow	M	\sim	N							 		\sim	50				
	5 (6)				US		LOCATION	5	7839	5/10/	6406	6406	6406	Shoc	6/	6/1				ı		- 1	-	풀	1630	5B))				ļ
	5				S		000	2	8	Ž	30.	10/	5	20	HOL	704						l		E	3		·		က	
	haci		0		0			_	1	π,	`		-							\dashv	ᅦ		7	DATE/TIME	× 5	3617-8		•	2, S	
	Mik		တ		₹ Z		BER	CA	GA	3.4	3 A	8 A	SA	5 A	A.	3.6		ł		l		-		_	>4/8	7			,Mo,	
OI DER	ax		000048		£		SAMPLE NUMBER	COSSCA	00066GA	0000076	000686	8H00069B	00070CA	000716	12GA	36A						-	f			180			Li,Sr SO4,	
	œ	٠,			Š,		Ē	12	2	206	06	00	0	Ŏ,	10007	67						1			X	kis &	}		S Cs,	
5	Ä		H L		AT	try	. MA	12	101	100	00	00			00	6H0007				l	ı	ļ			0	13			JOD.	
- 0	<u> </u>	-	₹ -		댇	nis	ν̈́	130	27	31	BH	BH	BH	BH	911	6H								B√	7	1. 1			(1) INCLUDES Cs,Li,Sr,Mo,Si,Sn (2) TSS,TDS,CI,F,SO4,CO3,HCO3	
Į	SITE CONTACTOR DIS	+	/ ∝		EG&G ROCKY FLATS, CHAIN OF CUSTODY	General Chemistry	ш	14	0	V 1	30	B			7	35								RELINQUISHED	1	MIL			€®	8
Ę.	` \ <u>T</u>		MBE		Ö	<u></u>	TIME	12	310	1	43	501	1501	20	251	53								ISI	75	1	l		SS.	v. 12/
CONTRACTA	Ž Z		C-O-C NUMBER		₩ 9	sra	l	V				 			18	,		\dashv	\Box	\dashv	\dashv	1	\dashv	ON!	1/2	1			REMARKS	RF-47987 (Rev. 12/93)
TNO) 11		Ŏ		କ୍ଷ୍ର -	ene	DATE	2/2/8	5/4	12/5	817/51	55/2	12/9	5/7/2	12/	3/1/5								REL	1	Ch			8	F.4.78
Ŭ	$\overline{\mathcal{O}}$		_	ı	ய	Ó	ı	136	13	1~	20	-	10	1 20	100	5	1 1			1	- 1				l		<u> </u>	<u> </u>	<u> </u>	_1 Œ

TABLITHE TABLES TOO TO TOO TOO	FIVE BY LEIVED BY LEIVE BY LEIVED BY LEIVE BY LEIVED BY LEIVE BY LEI	TOCATION TOPE STATE FOR THE RECEIVED BY TIME RECEIVED BY THE RECEIVED	GE # (4)27-924660	w w w w	У - Н	A		52 50 00	2H									<i>z</i>	-		275		7 11
PATE/TIME DATE/TIME DATE/TIME HCCATION HCCATION	SHIPMENT METHOD: Hand	FAX EX PAX EX EX PAX EX	18	V B P M M W W W W W W W	* * A B B C D E G	A C A	CLP CLP	VOA - 524. CBs/PEST OTAL Meta ISS. Metals VATER QUA IL & GREAS IL & GREAS	М В В В В В В В В В В В В В В В В В В В									LABORATORY USE ONLY	PCKG REC'D/CUSTODY SEALS INTACT	SAMPLE LABELS/COCs AGREE	TEMPERATURE WITHIN SPECIFICATION	CORRECTED COPY ATTACHED	PROBLEMS OR DISCREPANCIES
	SHIPMENT MET	SHIPMENT MET	, 	ROTTIE		HSL STS	BEC BEBOU BOOND BO	7=TURN A COOLED T HOAH HYSO4 DH	1 1 7 X	×	×	X						DATE/TIME		1.			9

305/00 2000																z >)	À		WAY	4.4	OCGC-v1.2
でま		w w w	J X	A			12.5 12.5 10.0	1											1.2 c			Form: EGGRFP-121593-GWCOCGC-v1.2
CHARGE #		w w w	E G H				CVANIDE)									ACT		TION			orm: EGGRFP
ANALYTICAL CHARGE #		w w	B C	A	*		NH3 OIL & GREA Ortho-	上								ONLY	SEALS INT	AGREE	SPECIFICA ⁻	ACHED	ANCIES	3
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	101	W W	* A *	O V		YTIJA	DISS. Metal WATER QU S SON\EON									RY USE 0	PCKG REC'D/CUSTODY SEALS INTACT	SAMPLE LABELS/COCS AGREE	TEMPERATURE WITHIN SPECIFICATION	CORRECTED COPY ATTACHED	PROBLEMS OR DISCREPANCIES	
	0	B M				СГЬ	BNA - CLP PCBs/PEST TOTAL Met									LABORATORY USE	KG REC'D/	AMPLE LAB	EMPERATUR	ORRECTED	OBLEMS O	I field copy
	ATION	> >	S F	E (-		004 - 254 004 - CLP HCI HSO4	X									Dd COD NI	15 /hj/	I	ö	Red PF	Retain GREEN smittal
70	LAB/LOCATION	1	CODES	PRESERVATIVE) + O I	HVO3 VAOH									DATE/TIME	B-8-35 1U	786			delle	Ship WHITE and YELLOW copies with samples Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal
7 7			ν	HS	ID KN	PROUN	F=FILTERI R=TURN A OUT OF S										/	$ \mathcal{J} \cap \mathcal{D}$			hand	OW copies w RFEDS with
110	FAX Ext	\P ₁	Я	ΙΤΑΝ	ν= <u>ν</u>	'NOS=	NEDIA: S=	15									whar	1/2/2/11			SHIPMENT METHOD 6/	ITE and YELL BLUE copy to
ERS .				1	· >-		CONTAINER TYPE, SIZE, UNITS	400								RECEIVED BY	my W/W	1100		•	SHIPM AIR BI	Ship WF Deliver
SAMPL Ray Michael (303) 966-4930	and Janes				EG&G ROCKY FLATS, CHAIN OF CUSTODY		LOCATION	70795								DATE/TIME R	1400 K	1060			13	
Kay Michael		1000	いっちゅうか		CHAIN		SAMPLE NUMBER	1964								DAT	8/4/65	. 8-895			(1) INCLUDES Cs,Li,Sr,Mo,Si,Sn (2) TSS,TDS,CI,F,SO4,CO3,HCO3	:
GOLDER	/PHONE		L L	i	YFLATS	mistry	SAMPLE	\$ 84000 TSG				-				D BY	il. d	cher			I) INCLUDES C	
CONTRACI	SITE CONTACT/PHONE	G-O-C NI IMBER			KG ROCK	General Chemistry	DATE TIME	88/53 1723								RELINQUISHED BY	laki	ya M			REMARKS (1	RF-47987 (Rev. 12/93)

STATE A 2100 IV 10 ≥ SZH DOC ANALYTICAL CHARGE # I LOC ပ COD TEMPERATURE WITHIN SPECIFICATION PCKG REC'D/CUSTODY SEALS INTACT ш CYANIDE ۵ Diss Ortho-Phos ⋖ SAMPLE LABELS/COCs AGREE PROBLEMS OR DISCREPANCIES CORRECTED COPY ATTACHED OIL & GREASE LABORATORY USE ONLY α NH3 8 ပ N 26 SON\EOV ⋖ ⋖ (S) YTIJAUQ RƏTAW OISS. Metals-CLP+(1) OTAL Metals-CLP+(1) Ship WHITE and YELLOW copies with samples -- Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal CBs/PEST CLP V × B BNA - CLP .mos S.4S2 - AOV ပ VOA - CLP LAB/LOCATION 600 на 8-7-95-5935 deling BOTTLE CODES **PRESERVATIVE** DATE/TIME 40SZH FONH HOAV COOLED TO 4°C SHIPMENT METHOD LICELY OUT OF SPEC REPORTS HEUR ANUORA MRUT=8 F=FILTERED, U=UNFILTERED MEDIA: S-SOIL, W-WATER FAX Ext 7 NUMBER OF CONTAINERS AIR BILL NO .: Fax (-5-1/5 to X6079 Deliver BLUE X C-5-1/5 to X6079 Au & box & bo CONTAINER LYPE, SIZE, Juny 5 RECEIVED BY UNITS SAMPLERS Ray Michael (303) 966-4930 EG&G ROCKY FLATS, CHAIN OF CUSTODY LOCATION 47/9 0 935 Medes 1-829-1400 70595 CODE DATE/TIME (2) TSS,TDS,CI,F,SO4,CO3,HCO3 RFP 005924 REMARKS (1) INCLUDES Cs,Li,Sr,Mo,Si,Sn SAMPLE NUMBER GOLDER 34000746A General Chemistry SITE CONTACT/PHONE RELINQUISHED BY 5050 C-O-C NUMBER TIME RF#47987 (Rev. 12/93) CONTRAC 2,70 37765 DATE

00150086 Z < Cr VI ≥ ≥ SZH DOC w|w|w|w|w|w|w|w| ANALYTICAL CHARGE # **201** I COD ഗ TEMPERATURE WITHIN SPECIFICATION PCKG REC'D/CUSTODY SEALS INTACT CYANIDE w Diss Ortho-Phos ⋖ SAMPLE LABELS/COCs AGREE PROBLEMS OR DISCREPANCIES CORRECTED COPY ATTACHED OIL & GREASE LABORATORY USE ONLY മ инз ω N SE SON/EON O (S) YTIJAUQ RƏTAW ⋖ ⋖ Σ DISS. Metals-CLP+(1) Σ OTAL Metals-CLP+(1) CBs/PEST CLP ۵. BNA - CLP Ω > .mos S.4S2 - AO\ O O VOA - CLP LAB/LOCATION 1250 1××1 ЮH de1104 BOTTLE DATE/TIME †OSZH PRESERVATIVE HOO3 8-7-95 HOAV COOLED TO 4°C SHIPMENT METHOD (1000) OUT OF SPEC REPORTS 6/OV HEUR DINUORA MRUT=R F=FILTERED, U=UNFILTERED M=WATER MEDIA: S=SOIL, **√**\ Λ S FAX Ext **JUMBER OF CONTAINERS** AIR BILL NO .: CONTAINER TYPE, SIZE, RECEIVED BY UNITS SAMPLERS 62 Ray Michael (303) 966 4930 EG&G ROCKY FLATS, CHAIN OF CUSTODY LOCATION 7099 1250 7089 6606 CODE BH000836AV17109 DATE/TIME 8/4/55 (2) TSS,TDS,CI,F,SO4,CO3,HCO3 8-10-95 005975 RHODO 826AY (1) INCLUDES Cs,Li,Sr,Mo,Si,Sn SAMPLE NUMBER BH000816A GOLDER 8H000806 RFP General Chemistry SITE CONTACT/PHONE RELINQUISHED BY 1037 5651033 C-O-C NUMBER TIME 15/0907 RF-47987 (Rev. 12/90) 819 15/1141 REMARKS CONTRAC DATE

Ship WHITE and YELLOW copies with samples -- Retain GREEN field copy Deliver BLUE copy to RFEDS with Datacap Transmittal

CONTAINER COSTION TYPE, SIZE, UNITS TIZGS U CZ S TIZGS U		В	A T 다 PRESERVATIVE C	==UNF 	ED, U= AROUN SPEC R TO 4°C	MUMBER 6 MEDIA: 5: F=FILTER OUT OF 5 COOLED VOA - CLP HUO3 WATER QU OUT ALB HOO3 VOA - CLP OOC OOC OOC OOC OOC OOC OOC		X	X X X X X X X X X X									DATE/TIME LABORATORY USE ONLY Y N	PCKG REC'D/CUSTODY SEALS INTACT	(1) Shipper (1854) SAMPLE LABELS/COCS AGREE	TEMPERATURE WITHIN SPECIFICATION C	CORRECTED COPY ATTACHED	метнор: 1/2 class of Discrepancies
S977 AIN OF CUST CAN 71295 CAN					OF CO	CONTAINER TYPE, SIZE, UNITS	62	1 5 20 /	0/1	40		1	1/1/1/	TAY				RECEIVED BY	Early Mic	6) There			SHIPMENT M
	1 5 4 1	2165	L ()	TAIN OF CUSIO		SAMPLE NUMBER CODE	13400 34 6AV 71195	BH0008264171295	2			/						DATE/TIME	8/9/95 1722.	8,095 (3,50		المتعصفين	(1) INCLUDES Cs,Li,Sr,Mo,Si,Sn (2) TSS,TDS,CI,F,SO4,CO3,HCO3

ANALYTICAL CHARGE # __

SAMPLERS MCCK 12 0

GOLDER

CONTRACT

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1732 8/3/95

DATE:

File

APPROVED:

SAMPLE DESCRIPTION 8 samples for volatile organic screening.

Date Sampled: 8/1/95

ANALYSIS RESULTS

The following sample was screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. Approximately 1 g of sample was purged and analyzed. A list of analytes screened is attached. Since the samples were screened only, there are estimated quantitations (PPB) noted. It can be assumed that detection limits are in the low (5-15) part per billion (PPB) range.

SAMPLE ID

BH00051GA 10195 Soil

BH00052GA 70295 Soil

BH00053GA 70295-5011

ANALYTES IDENTIFIED

Methylene Chloride (50) Acetone (400) 1,1-Dichloroethane (240) 1,1,1-Trichloroethane (1050) Trichloroethene (670) Tetrachloroethene (460) Xylenes (85)

Acetone (16,000) 1,1-Dichloroethane (700) 1,1,1-Trichloroethane (1300) Trichloroethene (200) 4-Methyl-2-Pentanone (3000) Tetrachloroethene (315) Toluene (1600) Ethylbenzene (240) Xylenes (1300)

Acetone (15,000) 1,1-Dichloroethane (400) 1,1,1-Trichloroethane (1800) Trichloroethene (900) 4-Methyl-2-Pentanone (1700) Toluene (900) Ethylbenzene (220) Xylenes (900)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

BH00054GA 70295 Soll

BH00055GA 70295 Soil

BH00056GA 76295 Sil

BH00057GA Dup of 36 (soil) 70295

BH00058GA Rinse (70295)

Methylene Chloride (740) 74 Acetone (27,000) 27 1,1-Dichloroethane (2100) Z./ 1,1-Dichloroethene (500) 5 1,1,1-Trichloroethane (6000)6 1,2-Dichloropropane (300).3 Trichloroethene (3000)3 4-Methyl-2-Pentanone (4000)4 Tetrachloroethene (900),9 Toluene (5000) 5 Ethylbenzene (2300)2.3 Xylenes (8000)g

Methylene Chloride (430) 'Acetone (3900) 1,1-Dichloroethane (140) 1,1,1-Trichloroethane (320) Trichloroethene (140) 4-Methyl-2-Pentanone (2700) Toluene (190) Xylenes (140)

Methylene Chloride (1200) Acetone (14,000) 1,1-Dichloroethene (240) 1,1-Dichloroethane (380) 1,1,1-Trichloroethane (2300) Trichloroethene (1500) 4-Methyl-2-Pentanone (3300) Tetrachloroethene (160) Toluene (1900) Ethylbenzene (760) Xylenes (2600)

_Methylene Chloride (2000) Acetone (2700) 1,1-Dichloroethene (650) 1,1-Dichloroethane (370) 1,1,1-Trichloroethane (680) Trichloroethene (700) 4-Methyl-2-Pentanone (2300) Tetrachloroethene (47) Toluene (830) Ethylbenzene (80) Xylenes (400)

nothing found

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1742

DATE:

8/7/95

File

SAMPLE DESCRIPTION 1 sample for "CLP" volatile organic screening.

Date Sampled: 8/1/95

ANALYSIS RESULTS

The following sample was screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. 100 ul of this extract was injected into 5 mls of deionized water and purged and analyzed. The final dilution factor is 500:1. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00054GA

70295 - Soil

ANALYTES IDENTIFIED Acetone (42) 1000/ 1,1-Dichloroethane (1) 1,1,1-Trichloroethane (23)6 ~3000/ Trichloroethene (1) 3 1000/ Tetrachloroethene (1) 1000/ 4-Methyl-2-Pentanone (3) 3000/ Toluene (13) 130000 Ethylbenzene (5) 5000 / 24000 Xylenes (24)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1742 DATE:

8/4/95

File

SAMPLE DESCRIPTION 4 samples for volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. Approximatelý 1 ml (or 1 gr) of sample was purged and analyzed. A list of analytes screened is attached. Since the samples were screened only, there are estimated quantitations (PPB) noted. It can be assumed that detection limits are in the low (5-15) part per billion (PPB) range.

SAMPLE ID

BH00059GA 70Z95 Soil

BH00060GA 70395 591

BH00061GA water sample

ANALYTES IDENTIFIED

Methylene Chloride (1000) Acetone (1700) 1,1-Dichloroethene (50) 1,1-Dichloroethane (65) 1,1,1-Trichloroethane (100) Trichloroethene (50) 4-Methyl-2-Pentanone (1200) Toluene (85) Xylenes (35)

Acetone (220) 1,1-Dichloroethane (400) 1,1,1-Trichloroethane (3700) Tetrachloroethene (1300) Toluene (500) Ethylbenzene (70) Xylenes (700)

Methylene Chloride (420) Acetone (140) 1,1-Dichloroethene (550) 1,1-Dichloroethane (4800) 1,1,1-Trichloroethane (12,000) Trichloroethene (580) 1,1,2-Trichloroethane (140) Tetrachloroethene (2100) Toluene (2600) Ethylbenzene (210) Xylenes (2100)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

BH00062GA

Methylene Chloride (300) Acetone (460) 1,1-Dichloroethene (125) 1,1-Dichloroethane (725) 1,1,1-Trichloroethane (4600) Trichloroethene (800) 1,1,2-Trichloroethane (80) 4-Methyl-2-Pentanone (1350) Tetrachloroethene (1000) Toluene (3100) Ethylbenzene (550) Xylenes (2900)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1742 8/7/95

DATE:

File

SAMPLE DESCRIPTION 3 samples for volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. Approximately 1 ml (or 1 gr) of sample was purged and analyzed. A list of analytes screened is attached. Since the samples were screened only, there are estimated quantitations (PPB) noted. It can be assumed that detection limits are in the low (5-15) part per billion (PPB) range.

SAMPLE ID

BH00063GA

50il 6,5-68

вноооб4GA 501

ANALYTES IDENTIFIED

Methylene Chloride (70) /Acetone (360) 11,1-Dichloroethene (55) 1,1-Dichloroethane (65) 4,1,1-Trichloroethane (1600) #richloroethene (140) Tetrachloroethene (340) 4-Methyl-2-Pentanone (2100) Toluene (700)

Ethylbenzene (125) Xylenes (750)

Methylene Chloride (475) Acetone (675) 1,1-Dichloroethene (460) 1,1-Dichloroethane (700) 1,1,1-Trichloroethane (8500) Trichloroethene (800) Tetrachloroethene (4700) Toluene (4000) Ethylbenzene (1500) Xylenes (7700)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

BH00065GA 51. 85-90 Methylene Chloride (1900) Acetone (345) 1,1-Dichloroethene (370) 1,1-Dichloroethane (1200) 1,1,1-Trichloroethane (3000) Trichloroethene (1000) 1,1,2-Trichloroethane (55) 4-Methyl-2-Pentanone (8200) Tetrachloroethene (300) Toluene (3400) Ethylbenzene (350) Xylenes (2000)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1742

DATE:

8/8/95

File

APPROVED

SAMPLE DESCRIPTION 3 samples for "CLP" volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. 100 ul of this extract was injected into 5 mls of deionized water and purged and analyzed. The final dilution factor is 500:1. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00060GA 7131)

вноообеда үз 1395 1395

BH00064GA

ANALYTES IDENTIFIED

Methylene Chloride (108) 1,1,1-Trichloroethane (4) Tetrachloroethene (3.5) Toluene (.77) Xylenes (2.2)

Methylene Chloride (108) Tetrachloroethene (.96) Toluene (.99) Ethylbenzene (.84) Xylenes (6.6)

Methylene Chloride (101) 1,1,1-Trichloroethane (.5) Tetrachloroethene (.6) Toluene (.6) Xylenes (1.4)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

Screen 1 PPB units

LAB NUMBER: 95E1748

DATE:

8/8/95

File

SAMPLE DESCRIPTION 3 samples for volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was purged and analyzed. SAMPLE RESULTS ARE REPORTED IN PPB (UG/KG)

SAMPLE ID

вноообеда (...)

BH00069GA

64-6.8 5614 7.0495

ANALYTES IDENTIFIED

Methylene Chloride (52) 1,1-Dichloroethene (27) 1,1-Dichloroethane (43) 1,1,1-Trichloroethane (260) Trichloroethene (36) Tetrachloroethene (57) 4-Methyl-2-Pentanone (25) Toluene (65) Ethylbenzene (11) Xylenes (155)

Methylene Chloride (37) Acetone (26) 1,1-Dichloroethene (55) 1,1-Dichloroethane (70) 1,1,1-Trichloroethane (1200) Trichloroethene (74) 4-Methyl-2-Pentanone (175) Tetrachloroethene (220) Toluene (290) Ethylbenzene (50) Xylenes (325)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

P.O. BOX 464 GOLDEN, COLORADO 80402 GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1748

DATE:

8/8/95

File

SAMPLE DESCRIPTION 2 samples for "CLP" volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. 100 ul of this extract was injected into 5 mls of deionized water and purged and analyzed. The final dilution factor is 1:500. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00067GA

BH00068GA

ANALYTES IDENTIFIED

1;1,1-Trichloroethane(7) Tetrachloroethene (10) Toluene (2) Ethylbenzene (1.3) Xylenes (9.6)

1,1,1-Trichloroethane (15) Trichloroethene (1) Tetrachloroethene (19) Toluene (4.3) Ethylbenzene (4.3) Xylenes (23)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1748 DATE:

8/7/95

File

SAMPLE DESCRIPTION 3 samples for volatile organic screening.

Date Sampled: 8/2/95

ANALYSIS RESULTS

The following samples were screened for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. Approximately 1 ml (or 1 gr) of sample was purged and analyzed. A list of analytes screened is attached. Since the samples were screened only, there are estimated quantitations (PPB) noted. It can be assumed that detection limits are in the low (5-15) part per billion (PPB) range.

SAMPLE ID

BH00070GA

7.35 -8.0

BH00071GA

7.35-8.0 70495 Soil

ANALYTES IDENTIFIED

Methylene Chloride (400) Acetone (350) 1,1-Dichloroethane (400) 1,1,1-Trichloroethane (2300) Trichloroethene (140) Tetrachloroethene (100) 4-Methyl-2-Pentanone (2700) Toluene (300) Ethylbenzene (20) Xylenes (900)

Methylene Chloride (470) Acetone (170) 1,1-Dichloroethene (100) 1,1-Dichloroethane (2500) 1,2-Dichloroethane (1300) 1,1,1-Trichloroethane (12,600) Trichloroethene (3500) Tetrachloroethene (3800) 4-Methyl-2-Pentanone (800) Toluene (5500) Ethylbenzene (3800) Xylenes (5600)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

BH00072GA RIASE

Tetrachloroethene (15) Toluene (15) Xylenes (18)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

BH00073GA

Methylene Chloride (83) Acetone (270) 1,1-Dichloroethene (29) 1,1-Dichloroethane (68) 1,1,1-Trichloroethane (140) Trichloroethene (12) 4-Methyl-2-Pentanone (2300) Toluene (42)

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

P.O. BOX 464 GOLDEN, COLORADO 80402 GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1757

DATE:

8/8/95

File

SAMPLE DESCRIPTION 1 sample for "CLP" volatile organic screening.

Date Sampled: 8/7/95

ANALYSIS RESULTS

Seven / PPM

The following sample was analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. 1 ul of this extract was injected into 5 mls of deionized water and purged and analyzed. The final dilution factor is 1:50,000. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00074GA

ANALYTES IDENTIFIED

Acetone (285)

1,1-Dichloroethene (265)

1,1-Dichloroethane (2023)

14.1,1,1-Trichloroethane (140,000) Trichloroethene (2400)

12. Tetrachloroethene (128,900)

1.7 4-Methyl-2-Pentanone (17,650)

(, Toluene (60,000) .7 Ethylbenzene (7350)

3,9 Xylenes (39,500)

398,373 =40%

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1770

DATE:

8/15/95

File

APPROVED:

SAMPLE DESCRIPTION 5 samples for "CLP" volatile organic screening.

Date Sampled: 8/8/95

ANALYSIS RESULTS

The following samples were analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. 10 ul of this extract was diluted in 990 ul of methanol. 10 ul of the dilution was then injected into 5 mls of deionized water and purged and analyzed. The final dilution factor TS 1:500,000. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00075GA 3,5-3,6 Seil 70515

BH00076GA 50 5.5

BH00077GA Soil 55 6.0

BH00078GA

BH00079GA

Post-it* Fax Note 7671	Date 8-/5-95 # of pages /
To Robin Volk	From N. Stoner
Co./Dept. Phone #	co. Cab
Fax # \$7//2	Phone # 4289
0603	Fax #

ANALYTES IDENTIFIED

 $^{\checkmark}$ 1,1,1-Trichloroethane (915) 915, $^{\circlearrowleft}$ 0 Tetrachloroethene (6800) 680000 Toluene (765)

1,1,1-Trichloroethane (11000) Tetrachloroethene (25000) Toluene (3500) Xylenes (1450)

1,1,1-Trichloroethane (5000) Tetrachloroethene (14500) Toluene (2000) Xylenes (850)

Methylene Chloride (2890) 1,1,1-Trichloroethane (13000) Tetrachloroethene (27000) Toluene (4000) Ethylbenzene (375) Xylenes (2100)

Methylene Chloride (72) Acetone (22) 1,1-Dichloroethane (4.3) 1,1,1-Trichloroethane (260) Trichloroethene (42) Tetrachloroethene (199) Toluene (80) Ethylbenzene (14) Xylenes (83)

Page 1 of 2

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464

GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1774

DATE:

8/15/95

File

APPROVED:

SAMPLE DESCRIPTION 3 samples for "CLP" volatile organic screening.

Date Sampled: 8/9/95

ANALYSIS RESULTS

The following samples were analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. Various aliquots of the extract were injected into 5 mls of de-ionized water and analyzed. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID

BH00081GA 70995 Soil 7.1-7.75

BH00083GA 710-15 7.3-7.6

ANALYTES IDENTIFIED

1,1,1-Trichloroethane (95) Tetrachloroethene (690) Toluene (86) Ethylbenzene (9) Xylenes (100)

Methylene Chloride (26) Trichloroethene (0.4) Tetrachloroethene (0.3) Toluene (0.4)

Methylene Chloride (2.8) Toluene (0.3)

Post-ite Fax Note To Let I Bray From Norm Toner Phone # Fax # Fax # Fax #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE P.O. BOX 464 GOLDEN, COLORADO 80402

GENERAL LABORATORY BUILDING 881

LAB NUMBER: 95E1774 DATE: 8/17/95

File

APPROVED:

SAMPLE DESCRIPTION 5 samples for "CLP" volatile organic screening.

Date Sampled: 8/9/95

ANALYSIS RESULTS

The following samples were analyzed for volatile organics using Purge and Trap Gas Chromatography/ Mass Spectrometry. 1 gr of sample was extracted with 10 mls of methanol. Various aliquots of the extract were injected into 5 mls of de-ionized water and analyzed. SAMPLE RESULTS ARE REPORTED IN PPM (MG/KG).

SAMPLE ID BH00080GA 7895 5.11 7.55-7.9

BH00084GA 7/195 Soil 7.1-7.75

BH00085GA 71295 6.0-6.5

BH00086GA 4.4 1 100 6.0-6.5

BH00087GA 71595 7777

ANALYTES IDENTIFIED

Methylene Chloride (41) Tetrachloroethene (0.3) Toluene (0.4)

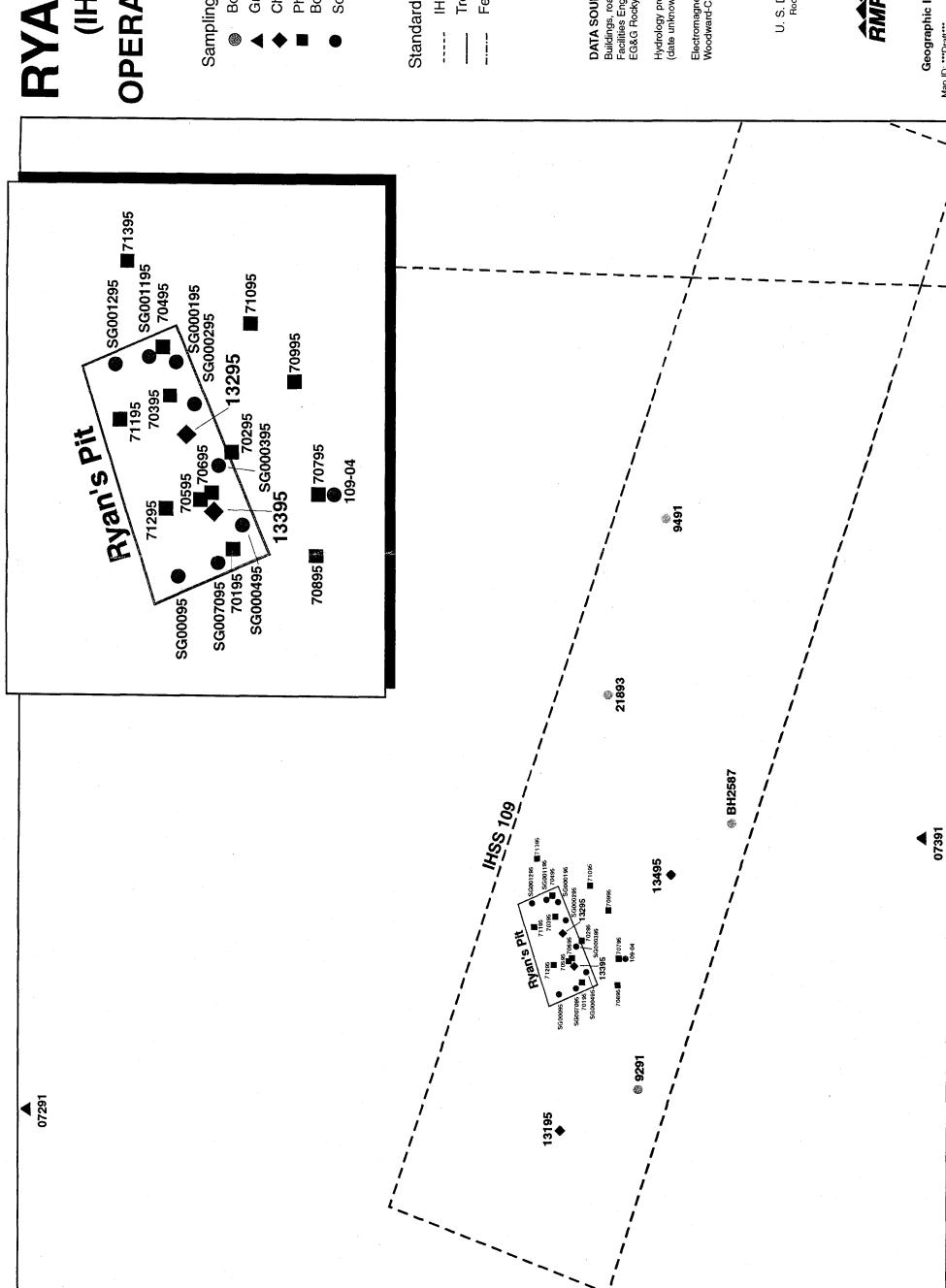
Tetrachloroethene (0.6)

Methylene Chloride (0.3) Benzene (0.3) Tetrachloroethene (0.4)

nothing detected

Tetrachloroethene (0.6)

1	Date 8 -/(-9) pages /
	Post-it® Fax Note 7671 From N. Stone!
	Co. John Co. Cab Co. John Phone # 4289
	Phone # Fax #
	Fax # 8663



RYAN'S PIT (IHSS 109)

OPERABLE UNIT 2

Sampling Types

- Borehole
- Groundwater Well
- Characterization Boreholes
 - Phase 2 Characterization Boreholes
- Soil/Gas Locations

Standard Map Features

- Trench Boundary **IHSS Boundary**
 - Fences

DATA SOURCE:
Buildings, roads and fences provided by
Facilities Engineering
EG&G Rocky Flats, Inc. - 1991

Hydrology provided by USGS - (date unknown)

Electromagnetic data provided by Woodward-Clyde - June, 1995

U. S. Department of Energy Rocky Flats Environmental Technology Site



Geographic Information Systems Group

August, 1995

RYAN'S PIT (IHSS 109)

Qualifier

Unit Measure

100 SO 10

ug/kg ug/kg ug/kg ug/kg

1500 3300 160 1900 760 2600

OPERABLE UNIT 2

Permay Samping Results Volatile Organic Screening

Sampling Types Borehole

- Groundwater Well
- Characterization Boreholes

water

ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg

2000 2700 650 370 680 700 2300 47 830 80

- Phase 2 Characterization Boreholes
 - Soil/Gas Locations

Standard Map Features

- ---- IHSS Boundary
 - Trench Boundary Fences

DATA SOURCE:
Buildings, roads and fences provided by
Facilities Engineering
EG&G Rocky Flats, Inc. - 1991

Hydrology provided by USGS - (date unknown)

Electromagnetic data provided by Woodward-Clyde - June, 1995

U. S. Department of Energy Rocky Flats Environmental Technology Site

water water

ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg

420 140 550 4800 12000 580 140 2100 2600 2100 2100

Soil is soil is soil soil is s

ug/kg ug/kg ug/kg ug/kg ug/kg

220 400 3700 1300 500 70

Soil Soil

ug/kg ug/kg ug/kg ug/kg

300 460 125 725

	Gogo
Mountain lation Services	Systems
Rocky Mountain Remediation Ser	xeographic Information Systems Group
Ē	Geographic

August, 1995

Map ID: ***Draft***

Analyte	Tichloroethene	4-Methyl-2-Pentanone	Toluene	Ethylbenzene	Xylenes	Methylene Chloride	Acetone	1,1-Dichloroethene	1,1-Dichloroethane	Trichloroethene	4-Methyl-2-Pentanone	Tetrachloroethene	Ethylborzono	Xylenes	-	nothing found		Methylene Chloride	Acetone 1 1-Dichloroethene		1,1,1-Trichloroethane	Trichloroethene	4-Methyl-2-Pentanone	Noluene	Spinor		Acetone	1,1-Dichloroethane	1,1,1-Trichloroethane	Tetrachloroethene	Ethylbenzene	Xylenes	Methylene Chloride	Acetone	1,1-Dichloroethene	1,1-Dichloroethane	Tichloroethene	1,1,2-Trichloroethane	Tetrachloroethene	Toluene	Etnylbenzene Xvlenes		Methylene Chloride	Acetone	1,1-Dichloroethane
E C C C C C C C C C C C C C C C C C C C	manarija arasir	MANUFARA ON OPPOSE SERVICE	паладалай үйстэг	nda ing di statu ki ti	osy valdovomo slav	7 56-82	200	yyddianii Wanadai	NAME OF THE OWNER O		n politicid AMO (II) più		and the second s	ang salah da kang milang mang salah garapa mang salah garapa salah garapa mang salah garapa mang salah garapa m		he had he had been seen as he had he	Sustantino electros autores es	MIDSBACKAMANSON		programan and cons		inthosphilistocom	opportunis de Code de Sando	una naise de distribute nation	III ANIVANYO, OVOCOV	70395	4.2-4.4		45 1110-151 10-0-3-	and the state of t	unquanti del Mineral	LACASCO ACCOMENTATION OF	7	2	uliuktura autororak kil	05549304.Ammaning			ntartisch secon		******************************	**************************************	5.0-5.7		pyrayogya maling ayung agalas bad
e e e		soil :	- SO ::	SO 50	 SO:	Soil			SOI	SO	NOS I	SO: 100	soil	201	SO SO		Soil	SO SO	Soil	Soli	Sol	S ic	5	Soil	Soil	S S	5 5	SO	Soli	Soil	80	S IOS	ŝ	S	5 5	700	8 8	5 5	soil s	Soil		<u> </u>	S S	Soil	S
Measure		ng/kg	0 /g	ua/ka	ug/kg	ng/kg	D AG		6y/6n	ng/kg	ng/kg ng/kg	D 07	ng/kg	gy/gn	n ag		ug/kg	ug/kg ug/kg	ug/kg	ug/kg	ng/kg	5 cg/s	<u></u>	ug/kg	ug/kg	ng/kg	0.00 0.00 0.00 0.00	ug/kg ua/ka	ug/kg	ug/kg	ug/kg	n da gyb gyb gyb	ug/kg	04/vii	0 00 m	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	2	gy/gn ng/kg	ng/kg	ug/kg	ng/kg
Result		20	96 %	1050	0/9	460	Ω		16000	8	1300 2000 2000	3000	315	1600	1300		15000	1800	006	1700	000	2 6	2	740	27000	2100	200	300	3000	4000	000	2300	8000	55	3900	140	320	2700	190	140	000	14000	240	380	5300
Analyte		Methylene Chloride	Acetone	1.1.1-Trichloroethane	Trichloroethene	Tetrachloroethene	Xylenes		Acetone	1,1-Dichloroethane	1,1,1-Irichloroethane	4-Methyl-2-Pentanone	Tetrachioroethene	Toluene	Xvlenes		Acetone	1, 1-Dichloroethane	Trichloroethene	4-Methyl-2-Pentanone	Toluene	Eunyloenzene Vulonos	200	Methylene Chloride	Acetone	1,1-Dichloroethane	1,1-Dichloroemene	1.1.1-Inclinionalie	Trichloroethene	4-Methyl-2-Pentanone	Tetrachloroethene	Ethylbenzene	Xylenes	Mothydono Chlorido	Acetone	1,1-Dichloroethane	1,1,1-Trichloroethane	4-Mothyl-2-Pentanone	Toluene	Xylenes			1,1-Dichloroethene	1,1-Dichloroethane	1,1,1-Trichloroethane
fi.	70195	4.0-4.6	***************************************	ngyaggagagaga kiha				70295	2.0-2.25		MARKET TO THE STREET	ugu ugu ada kata kata aya ata aya aya aya aya aya aya aya		And Annual Control of	ank da kuliyaninon	and a state of the	4.0-4.7		urga beggina a kilomana	gadensinasyan	ence de la constitución de la co		manya, kapusana ana di	5.0-5.6		ese dentale environment		aganistici del del aganistici del del aganistici del del aganistici del aganisti del aganistici del aganisti del aganistici del aganisti del aganistici del aganistici del aganistici del aganistici del	november de distribuir			n married (4 day 4	A 6 mil spinot for returnization	\(\alpha\)	9			noidel considérées	and disconnected to be determined as	hada bilininga ba	0	7.20-95.7			

ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg

1000 1700 50 65 100 1200 85 35

Page 1	6.5-6	7.0-7	8 'C' 'C	69.29
	SG00095		SCOOTGES 71255 71265 712	# BH2587
	07291		13196	

	The second secon						The state of the s	9 E	4
Depth	Analyte	of the state of th	Measure	S. C.		Analyte	2 2 2	Measure	
	1,1,1-Trichloroethane	4600	ug/kg	Soil	70495				
	Trichloroethene	000	ug/kg	SO SO	6.4-6.8	Methylene Chloride	37	ng/kg	Soil
	4-Methyl-2-Pentanone	1350	ug/kg ug/kg	Soi ios	dock of an explanation in the state of the s	Acetorie 1.1-Dichloroethene	N 10	ug/kg ug/kg	
	Tetrachloroethene	000	ug/kg	Soil	nida suntransi	1,1-Dichloroethane	2	ug/kg	Soil
	Toluene	3100	ug/kg	SO	ocupación menhatique	1,1,1-Trichloroethane	1200	ug/kg	Soil
	Ethylbenzene	220	ug/kg	Soil	outdate-salps-salve-	Trichloroethene	ス ド	ug/kg	
	Aylenes	2082	Sy Sh	5	Address and Property and Associated Section 1985	4-Memyl-z-Pentanone	0 0	0 (%) 0 (%)	So i
5-6.8	Methylene Chloride	22	nd/ka	Soil		Toluene	290 290	ug/ka	Soil
	Acetone	360	ug/kg	Soil		Ethylbenzene	20	ua/ka	Soil
	1,1-Dichloroethene	52	ug/kg	soil	agannik dak dakilik	Xylenes	325	ug/kg	Soil
	1,1-Dichloroethane	65	ug/kg	Soil	ALLO PROVIDENCIA	*			
	1,1,1-Trichloroethane	1600	ug/kg	soil	7.35-8.0	Methylene Chloride	400	ug/kg	soil
	Trichloroethene	140	ug/kg	lios	novii etta Vad form	Acetone	350	ug/kg	soil
	Tetrachloroethene	340	ug/kg	soil	nytiinyinis ni _h ut Ass	1,1-Dichloroethane	400	ug/kg	soil
	4-Methyl-2-Pentanone	2100	ug/kg	Soil	speknall studykk Politik	1,1,1-Trichloroethane	2300	ng/kg	Soil
	Toluene	700	ng/kg	Soil	enesse grantenover	Trichloroethene	140	ng/kg	Soil
	Ethylbenzene	50 1	ug/kg	SO	P (\$44,44*********************************	Tetrachloroethene	100	ng/kg	SOI
	Xylenes	92	ng/kg	SOS	ng gyanna kalang	4-Methyl-2-Pentanone	2/00	ug/kg	SOS I
0.74	Methylana Chlorida	475	in/ka	.0S	LOWWYGOOR	Ethylhonzono	200	ug/ng In/ka	
	Acetone	675	ua/ka	Soil	00A16-0000800	Xylenes	006	110/kg	Soil
	1.1-Dichloroethene	460	ua/ka	Soil	websintanskos co)))	0	
	1,1-Dichloroethane	700	ug/kg	soil	7.35-8.0	Methylene Chloride	470	ug/kg	Soil
	1,1,1-Trichloroethane	8500	ug/kg	soil	nodoleand e Releva	Acetone	170	ug/kg	SOII
	Trichloroethene	800	ug/kg	Soil	AAAA DAA AA	1,1-Dichloroethene	100	ug/kg	Soil
	Tetrachloroethene	4700	ng/kg	Soil		1,1-Dichloroethane	2500	ug/kg	Soil
	Toluene	4000	ug/kg	soil	nation school de la constant	1,2-Dichloroethane	1300	ug/kg	soil
	Ethylbenzene	1500	ug/kg	Soil	ange connection residence.	1,1,1-Trichloroethane	12600	ug/kg	SO
	Xylenes	7700	ug/kg	Soil	ppontende	Trichloroethene	3500	ug/kg	SOI
		alkement fall in President	į		anna a considera de la constanta de la constan	Tetrachloroethene	3800	ng/kg	SO
2-9.0	Methylene Chloride	1900	gy/gn	SO	aliseen khali aliska illa	4-Methyl-2-Pentanone	800	ug/kg	Soil
	Acetone	345	ng/kg	SO	Surface construction of the surface	Toluene	5500	ng/kg	NOS
	1,1-Dichloroethene	370	ng/kg	Soil	lganolovens(gottin	Ethylbenzene	3800	ng/kg	SOI
	1,1-Dichloroethane	1200	ug/kg	SO .	2321n266448n44m	Xylenes	2600	ug/kg	SO
	1,1,1-Trichloroethane	3000	ng/kg	000		•	(
	Trichloroethene	<u> </u>	ug/kg		8.4-8.7	Methylene Chloride	w (00 kg	SOII
	1,1,2-Inchloroemane	n 000	ng/kg ng/kg		Andrews or the State of the Sta	Acetone	2/2	ug/kg	5
	4-Methyl-2-Pentanone	2200	ug/kg	5 8	mg, projection and man	1,1-Dichloroethene	N 6	ug/kg	200 E
	Telrigge	000	UG/KG	5 7		1,1-Dichioroemane	\$ \$	D 400	5 6
	Toluene	350	ug/kg))		T.1,1-Inchloroethane	4 ÷	D 28	5 8
	Xvienes	2000	ng/kg	8 8	un katarak di didakhin da	4-Methyl-2-Pentanone	2300	ug vg	Soil
			9		NO THE STREET OF	Toluene	42	ug/kg	soil
59-9.9	Methylene Chloride	52	ug/kg	Soil			and a make of the Andrews)	
	1,1-Dichloroethene	27	ug/kg	Soil	and was standard and an article of the standard and an article of the standard and article of the standard article of the standard and article of the standard article of the standard and article of the standard article of the standard and article of the standard article		olumbigho o destra e e e e e		
	1,1-Dichloroethane	43	ug/kg	80					
o OOO in the section of the	1,1,1-Trichloroethane	260	ug/kg	Soll	Account visit visit			·	
· v-+i/-czaseespej	Trichloroethene	38	ug/kg	80	one and Williams	and and description of the second		ova rasmaova	
	Tetrachloroethene	\cdot	ng/kg	SO	nahdara kanada kanad	20064 N.Warning			
nodossis (g. nijegija din	4-Metnyl-2-Pentanone	S &	ug/kg	200	**************************************				******************
hot vie e astervellen	Fthyhenzene	3 =	ug/kg ug/kg	Soll	Mar and Alberta State (State State Sta			***************************************	***************************************
overboody (iii o.m.	Xylenes	155	ug/ka	Soil	acce & secretarios de la constanta de la const		topp grow-according		MO-11810-0-1-0-0-
mening analysis distribution for	2010)	n h	;	***********		mangarkon dha ki	dynamic subbre hid Affin	***************************************
ARMINISTER IN	AND CONTRACTOR OF THE PARTY OF				M ultiple section (Ma	o consistencia de la consistencia della consistencia de la consistenci	************************	-	
stakkoondig									

RYAN'S PIT (IHSS 109)

71395

70495

71295

▲07291

500

Ryan's pit

71095

13295

70295

20195

70695

70995

13395

70795

70895

OPERABLE UNIT 2 CONTAMINANTS OF CONCERN

Sampling Types

- Borehole
- **Groundwater Well**
- Phase 2 Characterization Boreholes Characterization Boreholes

Standard Map Features

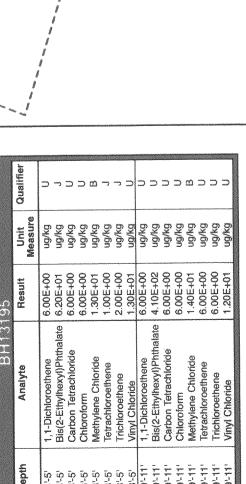
- Trench Boundary ---- IHSS Boundary
- Fences

<u>S</u>

	n T	95		
Page 4	Analyte	Result	Unit Measure	Qualifier
3'-5'	1,1-Dichloroethene	6.00E+00	ug/kg	n
31-51	Bis(2-Ethylhexyl)Phthalate	6.20E+01	ug/kg	~>
3-2	Carbon Tetrachloride	6.00E+00	ng/kg	>
3,5	Chloroform	6.00E+00	ug/kg	>
3-5	Methylene Chloride	1.30E+01	ug/kg	Δ
3,5	Tetrachloroethene	1.00E+00	ug/kg	
3,43	Trichloroethene	2.00E+00	ug/kg	7
3.5	Vinyl Chloride	1.30E+01	ug/kg	>
9-11:	1,1-Dichloroethene	6.00E+00	ug/kg	>
9-11-	Bis(2-Ethylhexyll)Phthalate	4.10E+02	ng/kg	5
9-11	Carbon Tetrachloride	6.00E+00	6y/6n	>
5	Chloroform	6.00E+00	ug/kg	>
9-11	Methylene Chloride	1.40E+01	ug/kg	മ
0.11	Tetrachloroethene	6.00E+00	ng/kg	5
9-11	Trichloroethene	6.00E+00	ug/kg	3
0	Vinyl Chinrida	1 20F+01	iid/ka	

	Analyte		Measure	
3-5	1,1-Dichloroethene	6.00E+00	ug/kg	D
3-5	Bis(2-Ethylhexyl)Phthalate	6.20E+01	ng/kg	~>
3-5	Carbon Tetrachloride	6.00E+00	ng/kg	>
31.51	Chloroform	6.00E+00	ug/kg	>
3,55	Methylene Chloride	1.30E+01	ug/kg	മ
31-51	Tetrachloroethene	1.00E+00	ug/kg	
3,5	Trichloroethene	2.00E+00	ug/kg	->
3'-5'	Vinyl Chloride	1.30E+01	ug/kg	Þ
9-11	1,1-Dichloroethene	6.00E+00	ng/kg	>
-11-0	Bis(2-Ethylhexyl)Phthalate	4.10E+02	ng/kg	5
0-11	Carbon Tetrachloride	6.00E+00	6y/6n	>
 	Chloroform	6.00E+00	ug/kg	>
9-11	Methylene Chloride	1.40E+01	ug/kg	ක
9:11	Tetrachloroethene	6.00E+00	ng/kg	
9-11	Trichloroethene	6.00E+00	ug/kg	
- F- 60	Vinyl Chloride	1.20E+01	ug/kg	>

		BH13295	96			an example
De	Depth	Analyte	Result	Unit Measure	Qualifier	
'n	3'-5'	1,1-Dichloroethene	1.50E+04	ug/kg	>	
ත්	3-51	Bis(2-Ethylhexyl)Phthalate	4.00E+02	ug/kg	5	
ත්	3.0	Carbon Tetrachloride	1.50E+04	ng/kg	5	ONOR MATERIAL PROPERTY OF THE PARTY OF THE P
က်	3-5	Chloroform	1.50E+04	ng/kg		
ć'n	3-5	Methylene Chloride	8.90E+03	ng/kg	3	7777115
Ġ	3-5	Tetrachloroethene	1.80E+04	ng/kg	<	
က်	3,-5,	Trichloroethene	5.00E+04	ng/kg	۵	
ෆ	3,5	Vimyl Chloride	3.00E+04	ng/kg	⊃	
â	8:-10.	1,1-Dichloroethene	8.80E+02	ng/kg	>	
Ĉ	8'-10'	Bis(2-Ethylhexyl)Phithalate	2.60E+03	ng/kg	Ą	
öο	8:-10	Carbon Tetrachloride	8.80E+02	ug/kg	5	
ත්	8-10	Chloroform	8.80E+02	ng/kg		
ထ်	8:10	Methylene Chloride	1.40E+04	ng/kg	Ж	ijakan
δο	8-10'	Tetrachloroethene	8.80E+02	Dy/Gn	5	
δò	8-10	Trichloroethene	8.80E+02	ng/kg	5	74.Y
ō.	יייין	Vinvl Chloride	1.80E+03	ua/ka	>	934122



\	/	tagogy#fds##d	er ercolose;	sylvanik jes	nemmonios	99.4556.285	portonitain	p-condusto		equamos:	audices	28449400000	*************	nove and an electrical	ikoga kirkita	payaseston
5												i Na	/A			
	D	~>	>	>	മ	3	>	⊃	>	=	=		മ			>
Unit	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ng/kg	ug/kg
Hesel	6.00E+00	6.20E+01	6.00E+00	6.00E+00	1.30E+01	1.00E+00	2.00E+00	1.30E+01	6.00E+00	4.10E+02	6.00E+00	6.00E+00	1.40E+01	6.00E+00	6.00E+00	1.20E+01
Analyte	1,1-Dichloroethene	Bis(2-Ethylhexyl)Phthalate	Carbon Tetrachloride	Chloroform	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyi Chloride	1,1-Dichloroethene	Bis(2-Ethylhexyl)Phthalate	Carbon Tetrachloride	Chicooform	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Sept.	3'-5'	3-5	3-5	3-5	3-5	3,5	3-5	3'-5'	9-11	9-11:	9-11:	9-11	9:-11	9:11:	9-11	5-11

entro		8.	A STATE OF THE STA		securosce	мениемой	www.documber	алериялия	цеодибино	Moderania	aguennes-	nutrition 64°C	0.85600000000000000000000000000000000000	possionino	accessis a financia de la constanta de la cons	600000000000000000000000000000000000000	Copyrigency	wysilineeroo
	Qualifier	J)	>	8	->	->	5		5	>)	മ	3	5		
	Unit Measure	ug/kg	ng/kg	ng/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ng/kg	ng/kg	ng/kg	ug/kg	ug/kg	
9.5	Result	6.00E+00	6.20E+01	6.00E+00	6.00E+00	1.30E+01	1.00E+00	2.00E+00	1.30E+01	6.00E+00	4,10E+02	6.00E+00	6.00E+00	1.40E+01	6.00E+00	6.00E+00	1.20E+01	
BH13195	Analyte	1,1-Dichloroethene	Bis(2-Ethylhexyl)Phthalate	Carbon Tetrachloride	Chloroform	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride	1,1-Dichloroethene	Bis(2-Ethylhexyl)Phthalate	Carbon Tetrachloride	Chloroform	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride	
	4			T.				T-a-	r.	-		-		,		Area -	- ques	

⊕<u>£</u>

/			<u></u>	Carbo	Chioro	Methy	Tetrac	Vined	1. Q-1,1	Bis(2-	Carbo	Methy	Tetrac	Trichle	Vimy
		Depth	33.51	2 c	(A) (C)	3-5	ी क्रो ज	n d	8:10	8-10	, d		%-10.		8-10
● BH2587		Qualiffer) i	a =	> >	œ		~)	>	: (::	> ā	3 >		>
		Unit	00/gm	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Marko Marko	ug/kg	ug/kg	ug/kg		ug/kg	ng/kg
19 P. C.	395	Result	2.50E+04	3.20E+04	2.50E+04	2.50E+04	4.70E+05	1.90E+04	7.60E+02	4.00E+02	7.60E+02	7.60E+02	7.60F±03	7.60E+02	1.50E+03
	BH13395	Analyte	1,1-Dichloroethene	Bis(2-Ethylhexyl)Phthalate	Chloroform	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyi Chloride	Bis(2-Ethylhexyl)Phthalate	Carbon Tetrachloride	Chloroform	Methylene Chloride	Trichloroethene	Vinyl Chloride
/		Depth	3-5	ရှိ က (ည်း လုံ က လ	oğ oğ o	3	က် က် က်	3-5-	8-10	8:10	8-10	Ď. Ç	8-10	8-10
- 1										Kint on t					

Depth	Analyte	Result	Unit Measure	Qualifier
3'-5'	1,1-Dichloroethene	7.00E+00	6y/6n	
3-5	Bis(2-Ethylhexyl)Phthalate	5.00E+01	ug/kg	
3-5	Carbon Tetrachloride	6.00E+00	ng/kg	>
3-5	Chloroform	6.00E+00	ug/kg	_
3-5	Methylene Chloride	1.70E+01	ug/kg	ක
3-5	Tetrachloroethene	1.80E+01	ug/kg	
3-5	Trichloroethene	1.30E+02	ug/kg	
3-5	Vinyl Chloride	1.10E+01	ug/kg	٦
8'-10'	1,1-Dichloroethene	3.00E+01	ug/kg	=
8'-10'	Bis(2-Ethylhexyl)Phthalate	8.30E+01	ug/kg	->
8-10	Carbon Tetrachloride	3.00E+01	ug/kg	>
8-10	Chloroform	3.00E+01	ug/kg	>
8-10	Methylene Chloride	2.70E+01	ng/kg	a
8-10:	Tetrachloroethene	3.00E+01	ug/kg	=
8'-10'	Trichloroethene	6.30E+02	ng/kg	
8-10	Vimyl Chiloride	6.00E+01	6y/6n	5

	210.5.000								4			
Sample	soil soil	soil soil	Iguid Iguid Iguid Iguid Iguid	Soil Soil	soil lios	soil soil	80 SOS S		lios lios	lios	Soil Soil	jos
ŧ	Measure ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	54/5n	ng/kg ug/kg	ng/kg	ug/kg ug/kg ug/kg	ug/kg
Result	1.10E+07 2.50E+07 3.50E+06 1.45E+06	5.00E+06 1.45E+07 2.00E+06 8.50E+05	2.89E+06 1.30E+07 2.70E+07 4.00E+06 3.75E+05 2.10E+06	7.20E+04 2.20E+04 4.30E+03 2.60E+03	4.20E+04 1.99E+05 8.00E+04 1.40E+04 8.30E+04	4.10E+04 3.00E+02 4.00E+02	9.50E+04 6.90E+05 8.60E+04 9.00E+03	2.60E+04 4.00E+03	4.00E+03 2.80E+03 3.00E+02	6.00E+02	3.00E+02 3.00E+02 4.00E+02	6.00E+02
Analyte	1,1,1-Trichloroethane Tetrachloroethene Toluene Xylenes	1,1,1-Trichloroethane Tetrachloroethene Toluene Xylenes	Methylene Chloride 1,1,1-Trichloroethane Tetrachloroethene Toluene Ethylbenzene Xylenes	Methylene Chloride Acetone 1,1-Dichloroethane	Trichloroettane Trichloroethene Tetrachloroethene Toluene Ethylbenzene Xylenes	Methylene Chloride Tetrachloroethene Toluene	1,1,1-Trichloroethane Tetrachloroethene Toluene Ethylbenzene	Methylene Chloride Trichloroethene	Toluene Toluene Methylene Chloride Toluene	Tetrachloroethene	Methylene Chloride Benzene Tetrachloroethene	Tetrachloroethene
Depth	5.0-5.5 5.0-5.5 5.0-5.5 5.0-5.5	5.5-6.0 5.5-6.0 5.5-6.0 5.5-6.0	5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0 5.0-6.0	5.55 5.55 5.55 5.55 5.55 5.55 5.55 5.5	5.5 6.0 5.5 6.0 5.5 6.0 5.5 6.0	7.55-7.9 7.55-7.9 7.55-7.9	7.1-7.75 7.1-7.75 7.1-7.75 7.1-7.75	6.5-7.1	6.5-7.1 7.3-7.6 7.3-7.6	27.7-1.75	6.0-6.5 6.0-6.5 6.0-6.5	7.2-7.7
Location	70695 70695 70695 70695	70695 70695 70695 70695	70695 70695 70695 70695 70695	70795	70795 70795 70795 70795 70795	70895 70895 70895	70995 70995 70995 70995	70995	71095 71095 71095	71195	71295 71295 71295	71395
Sample	Matrix Soil Soil Soil Soil	soil is	soil soil soil soil soil soil soil soil	soil soil	soil soil soil	soil soil	Soli los	soil soil soil	liquid liquid liquid liquid		Soil liquid	soil
į	ug/kg ug/kg ug/kg ug/kg	19/kg 19/kg 19/kg	ug/kg ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg	ug/kg ug/kg ug/kg	ug/kg ug/kg ug/kg ug/kg	ng/kg ng/kg	ng/kg ng/kg	ng/kg ng/kg
Result	4.20E+04 1.00E+03 2.30E+04 1.00E+03 1.00E+03	3.00E+03 1.30E+04 5.00E+03 2.40E+04	1.08E+05 4.00E+03 3.50E+03 7.70E+02 2.20E+03	9.60E+02 9.90E+02 8.40E+02 6.60E+03	1.01E+05 5.00E+02 6.00E+02 6.00E+02 1.40E+03	7.00E+03 1.00E+04 2.00E+03	9.60E-103	1.90E+04 4.30E+03 4.30E+03 2.30E+04	2.85E-05 2.65E-05 2.02E-06 1.40E-08	1.29E+08 1.77E+07 6.00E+07	7.35E+07 3.95E+07 9.15E+05	6.80E+ 06 7.65E+ 05
Analyte	Acetone 1,1-Dichloroethane 1,1,1-Trichloroethane Trichloroethene	4-Methyl-2- Pentanone Toluene Ethylbenzene Xylenes	Methylene Chloride 1,1,1-Trichloroethane Tetrachloroethene Toluene Xylenes	Tetrachloroethene Toluene Ethylbenzene Xylenes	Methylene Chloride 1,1,1-Trichloroethene Tetrachloroethene Toluene Xylenes	1,1,1-Trichloroethane Tetrachloroethene Toluene	Ethylbenzene Xylenes 1,1,1-Trichloroethane	Tetrachloroethene Toluene Ethylbenzene Xylenes	Acetone 1,1-Dichloroethene 1,1-Dichloroethane 1,1,1-Trichloroethane	Tetrachloroethene 4-Methyl-2-Pentanone Toluene	Ethylbenzene Xylenes 1,1,1-Trichloroethane	Tetrachloroethene Toluene
Depth	5.0-5.6 5.0-5.6 5.0-5.6 5.0-5.6	5.0-5.6 5.0-5.6 5.0-5.6 5.0-5.6	4.2-4.4 4.2-4.4 4.2-4.4 4.2-4.4 4.2-4.4 6.7-6.5	5.0-5.65 5.0-5.65 5.0-5.65 5.0-5.65	7.0-7.4 7.0-7.4 7.0-7.4 7.0-7.4 7.0-7.4	4.0-4.35	4.0-4.35 4.0-4.35 5.5-5.9	5 55 55 55 55 55 55 55 55 55 55 55 55 5	2.99.35 2.99.35 2.99.35 2.99.35	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2.9-3.5	6. 6. 6. 6. 6. 6.
Location	70295 70295 70295 70295 70295	70295 70295 70295 70295	70395 70395 70395 70395	70395 70395 70395 70395	70395 70395 70395 70395 70395	70495 70495 70495	70495 70495 70495	70495 70495 70495 70495	70595 70595 70595 70595	70595 70595 70595	70595 70595 70595	70595

DATA SOURCE:
Buildings, roads and fences provided by Facilities Engineering, EG&G Rocky Flats, Inc. - 1991
Hydrology provided by USGS - (date unknown)
Electromagnetic data provided by Woodward-Clyde - June, 1995

Geographic Information Systems Group Map ID: ***Draft***

August, 1995

